2023

Evaluation of Novice Teacher Practical Implementation of Applied Behavior Analysis Strategies: A Single-Subject Research Design Using Behavioral Skills Training

Toniece Walker

Evaluation of Novice Teacher Practical Implementation of Applied Behavior Analysis Strategies: A Single-Subject Research Design Using Behavioral Skills Training

by
Toniece E. Walker

An Applied Dissertation Submitted to the
Abraham S. Fischler College of Education
and School of Criminal Justice in Partial
Fulfillment of the Requirements for the
Degree of Doctor of Education

Nova Southeastern University
2023

Approval Page

This applied dissertation was submitted by Toniece E. Walker under the direction of the persons listed below. It was submitted to the Abraham S. Fischler College of Education and School of Criminal Justice and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Nova Southeastern University.

Khrystyna Bednarchyk, EdD, BCBA-D
Committee Chair

Katrina Pann, PhD
Committee Member

Kimberly Durham, PsyD
Dean

Statement of Original Work

I declare the following:

I have read the Code of Student Conduct and Academic Responsibility as described in the *Student Handbook* of Nova Southeastern University. This applied dissertation represents my original work, except where I have acknowledged the ideas, words, or material of other authors.

Where another author's ideas have been presented in this applied dissertation, I have acknowledged the author's ideas by citing them in the required style.

Where another author's words have been presented in this applied dissertation, I have acknowledged the author's words by using appropriate quotation devices and citations in the required style.

I have obtained permission from the author or publisher—in accordance with the required guidelines—to include any copyrighted material (e.g., tables, figures, survey instruments, large portions of text) in this applied dissertation manuscript.

Toniece E. Walker

_____

Name

April 24, 2023

_____

Date

Acknowledgments

First and foremost, I would like to thank God as without Him none of this would be possible. I would also like to thank Dr. Bednarchyk for her patience and willingness to help me throughout this entire process. Thank you for pushing me to finish even when at times I was discouraged in the process.

To my Parents, Tonny and Elaine Walker, thank you so much for everything. I will never be able to repay you for all of the sacrifices that you have made on my behalf. I hope that I have made you both proud. Thank you for ensuring that I always knew that there was never a limit to my opportunities if I believed in myself and my own abilities.

To my siblings, Dacassious, Tonasis, and Tonika, thank you all for your support. I hope that you know that there is no stopping for us now. To my nephews and nieces, I hope that I have inspired you to never put any limits on your endeavors. The sky is truly limitless.

Lastly to the one that has my heart, Vidal, thank you so much for all of your patience and support throughout this process. I would not have even went back to school if you had not encouraged me to do so. Thank you for always staying up with me and even being a drill sergeant when I needed to stay on task with completing assignments. I know that this has been a journey for the both of us. I appreciate you more than you will ever know!

Abstract

Evaluation of Novice Teacher Practical Implementation of Applied Behavior Analysis Strategies: A Single-Subject Research Design Using Behavioral Skills Training
Toniece E. Walker, 2023: Applied Dissertation, Nova Southeastern University, Abraham S. Fischler College of Education and School of Criminal Justice. Keywords: applied behavior analysis, behavior skills training, novice teacher, school climate

This applied dissertation was designed to provide a targeted training for novice teachers with the use of Behavior Skills Training model. Novice teachers struggle with behavior management in the classroom setting. While there is a growing need for strategic in-class intervention for students with problem behaviors, there is not a system training for novice and veteran teachers that prepares educators to address the increase of problem behaviors among students.

The researcher developed the targeted training that is grounded in the science of applied behavior analysis and incorporates its principles and strategies. With the use of Behavior Skills Training, the researcher trained teacher participants to apply the newly learned behavior management strategies in the classroom setting. The Behavior Skills Training model included instructions, modeling, rehearsal, and feedback. Relying on Classroom Data Collection Tool, the researcher collected data that accounted for the participants' use of general praise, error correction, opportunities to respond, and student disruptive behaviors.

Analysis of the collected data revealed mixed results with no clear indication of a hypothesized increase in application of the target skills across participants. Two out of three participants increased their ability to apply the applied behavior analysis strategies to improve the classroom environment and reduce student problem behaviors. Based on the visual analysis of data of all participants across the target behaviors, the participants' performance was not consistent between the intervention and follow-up phases. Future research studies should address the study limitations and incorporate teaching of functional behavior assessment, direct assessment of principles of applied behavior analysis, and adult learning principles as prerequisite skills.

Table of Contents

Appendices

Tables

Figures

Chapter 1: Introduction

Statement of the Problem

There is increase in problem behaviors among students in public and private schools across the U.S. (Smith & Higby, 2021). According to the National Center on Education Statistics (2022, para. 1), more than 80% of the U.S. public schools have reported negative student behavior and social emotional development since the pandemic and some of the problem behaviors include classroom disruptions from student misconduct (56%), acts of disrespect towards teachers and staff (48%), rowdiness outside of the classroom (49%), and the prohibited use of electronic devices (42%). Despite the fact that the science of applied behavior analysis (ABA) provides approaches and strategies for addressing the problem behaviors (Cooper et al., 2020; Smith & Higby, 2021), and the reauthorization of the Individuals with Disabilities Education Act ([IDEA], 2004) further endorses the use of evidence-based practices in public education, educators are not explicitly and continuously taught to identify and appropriately intervene when they are faced with challenging student behaviors (Smith & Higby, 2021). In addition, there is a lack of targeted training for novice teachers (Oakes et al., 2018, Sezer, 2017; Shank & Santague, 2022).

Many schools around the world have noted an increase in disruptive student behaviors over the last 5 years and especially after the onset of the coronavirus pandemic (Hanimoglu, 2018; Spadafora et al., 2022). Spadafora et al. (2022) went as far as introducing the term “classroom incivility” (p. 565). The term refers to a mild display of disrespectful and argumentative behaviors among students. While these behaviors may be insignificant on a large scale of maladaptive behaviors, they contribute to teacher

reactivity, problem escalation, and loss of instructional time (Spadafora et al., 2022).

While school administrators reported disruptive behaviors prior to the coronavirus pandemic (Ervin, 2015; Hanimoglu, 2018; Shah & McNeil, 2013), there is evidence of an influx of disruptive behaviors in the classroom that could be attributed to the pandemic-driven lock-down and elevated mental health issues (Xiang et. al, 2020). Disruptive behaviors, if prolonged, can lead to numerous academic, administrative, and legal ramifications among which teacher burnout (Shah & McNeil, 2013) and negative learning outcomes are noted (Ervin, 2018; Gage et al., 2020). Disruptive behaviors and their harmful influence on teaching and learning have worsened in the past 15 years or more (Ervin et al., 2018; Shah & McNeil, 2013; Gage et al., 2020). According to a study conducted by Scholastic and the Bill and Melinda Gates Foundation in 2012, as cited in Ervin et al.'s study (2018), "62% of educators who have been teaching in the same school for five or more years have reported an increase in problem behaviors and interference with teaching and learning" (p.1). Additionally, Ervin et al. (2018) reported presence of problem behaviors in all grade levels and that "68% of elementary teachers, 64% of middle school teachers, and 53% of high school teachers reported similar increases in problem behavior" (p.1). Moreover, the purpose of Ervin et al.'s study was to determine whether the relationship between the student and the teacher was correlated to classroom disruptions. The participants included 20 Grade 9–12 students and four teachers in the public school in Tennessee. The researchers observed the participants in the course of 90 sessions and noted students and teachers' relationships were directly correlated to the display of challenging behaviors in the classroom.

Additionally, Sutherland and Colleagues (2018) discussed the importance of

implementing an intervention in early years at the sign of problem behaviors to avoid including antisocial behavior, learning problems and risk for the development of emotional/behavioral disorders (EBDs). Sutherland and Colleagues (2018) used a randomized trial at four different sites to include 185 teachers and 465 children to participate in the study. Sutherland et al. (2018) examined the impact of BEST in CLASS on children's problem behavior as well as their social skills and engagement during early childhood classroom activities. The results of this study indicated that children in BEST-in-CLASS classrooms demonstrated decrease in problem behaviors and improvement in teacher reported social skills and observed engagement during classroom activities.

Techniques and interventions that are grounded in the science of ABA are beneficial in identifying functions of behavior and devising function-based interventions (Chen & Ma, 2007; Cooper et. al, 2020). While there is a plethora of evidence-based strategies that rely on ABA and can prevent further increase in the identified behavioral concerns among students in public and private schools, majority of educators are not trained to identify and address student problematic behaviors (Smith & Higby, 2021). Although educators receive academic and practical training in classroom management, behavior management strategies that are based in the science of ABA are not directly taught and hence widely used by educators (Flower et al., 2017; Smith & Higby, 2021). Through the targeted and on-going teacher training of ABA principles and strategies, various interventions can be developed to address the magnitude and frequency of problem behaviors while concurrently building positive behaviors in the classroom environment (Parsons & Reid, 2013).

Behavioral Skills Training (BST) is an effective evidence-based training model

that is widely used for training of educators (Parson et al., 2013). It is well suited and conceptually attainable as a practical training approach for educators for addressing problematic student behaviors as well as enhancing best practices relative to classroom management (Parsons et al., 2013). Moreover, educators who are strategically placed to benefit from this training are novice teachers because school districts across the U.S. are resorting to hiring teachers from other disciplines and without the adequate pedagogical and classroom management preparation (Podolsky et al., 2016). A research study that investigates the effects of novice teacher training on addressing student challenging behaviors by the use of practical implementation of the ABA strategies may provide evidence-based training approach to remedy the situation.

The Research Problem

The problem to be investigated in this research study is an increase in student problem behaviors (Smith & Higby, 2021) and lack of adequate novice teacher training in the field of ABA (Flower et al., 2017; Smith & Higby, 2021), which can reduce problem behaviors and impact overall school culture and climate. While there is a problem relative to the novice teacher training in the science-based behavior management strategies, there is also a gap in literature as to the most effective and practical training model for educators (Sawyer et al.,2017; Sezer, 2017; Shank & Santague, 2022; Stevenson et al., 2020). While many teachers may be knowledgeable in behavior reduction strategies, many novice teachers are not familiar with the concepts, nor do they have any knowledge of the effective ABA strategies (Parsons et al., 2013; Shank & Santague, 2022). In a study conducted by Sezer (2017), 24 novice teachers faced challenges with identifying and managing student problem behaviors such as chattering, distraction, engaging with

mobile phones, tardiness, eating in the classroom, and playing games on their tablets. The outcome of this study could be attributed to the lack of training in ABA strategies that are not directly taught in teacher preparation programs. Moreover, due to the recent budget reduction in the number of teacher preparation programs in the U.S., a course on behavior management may also be omitted or streamlined to include basic information (Flower et al., 2017).

Additionally, Shank and Santague (2022) stated that "despite decades of research in classroom management, issues contributing to novice teachers feeling unprepared to manage classrooms have not been fully explored" (p.26). The authors further emphasized the novice teachers' uncertainty and lack of preparation relative to addressing problem behavior and workload expectations. Shank and Santague (2022) interviewed eight novice teachers from the California Bay area. The results of the interviews revealed the need for practical approaches to teacher training with emphasis on addressing student behaviors. The purpose of this study is to provide novice teachers with the necessary skills to address problem behaviors, increase the overall school culture and climate, and hence fill the gap in the literature as to investigating the most effective training approach.

Background and Justification

According to Chen and Ma (2007), the occurrence of challenging behaviors in educational settings is a common problem that is anticipated and usually addressed. Novice teachers, however, are not prepared to handle students with problem behaviors and their lack of knowledge may contribute to the growing problem (Levine 2006, Flower et al., 2017; Garwood & Van Loan, 2019; Sezer, 2017; Shank and Santague,

2022). Moreover, many of the discipline referrals that occur in schools are initiated by novice teachers (Sezer, 2017; Ozturk & Yildirim, 2013). It is crucial that novice teachers are trained to identify the function of disruptive behaviors and intervene with skill and knowledge. Luiselli et al. (2008) stated that teaching critical knowledge and behavior management competencies should be included in any initial comprehensive teacher training program.

The IDEA (2004) is a federal law that guarantees all eligible children with disabilities between the ages of 3 and 21 (or until the child graduates) the right to a free appropriate public education. It emphasizes the need for general education teachers to have the knowledge and skills necessary to incorporate behavior management strategies because positive behavior supports and functional assessment procedures are now mandated for students with exceptionalities, and the same measures apply to all learners within the k-12 educational system. Presence and exercise of strong behavior management skills among educators are necessary for many reasons, but the most important one is related to the direct learning outcomes which translate into low academic engagement and performances, and a poor performance on standardized test (Chen & Ma, 2007).

Deficiencies in the Evidence

As of today, teachers' preparation programs offered specialized coursework in the grade level and subjects and a hands-on field experience (VanDerall, 2021). They are not designed to prepare a novice teacher to address disruptive student behaviors directly and specifically through coursework or student teaching (VanDerall, 2021). Over 30 years ago, Axelrod et al. (1990) discussed the fact that many teachers were not familiar with

the evidence-based strategies for addressing student maladaptive behaviors in the classroom consistently. Almost 30 years later, Stevenson et al. (2020) noted that there continues to be a lack of behavior skill training and coursework for teachers. In attempt to remedy this problem, Seiverling et al. (2010) looked at training of teachers that addressed the Natural Language Paradigm (NLP) intervention. In his study, Seiverling and colleagues used BST and general-case training (GCT) in which the experimenter simulated child performance to teach three staff to conduct NLP and response chaining to increase the three-link vocal chains in three children with autism. The results of this study demonstrated an increase in vocal techniques of children with autism and the overall teaching skill improvement. Additionally, Gianoumis et al. (2012) examined response chaining procedures for teachers. In this study, Gianoumis and colleagues used BST to train teachers to implement the NLP teaching procedures with three preschool children with autism. The results of this study revealed that all participants demonstrated successful acquisition of the NLP procedures and stimulus preference assessment skills after receiving the training. Sawyer and colleagues (2017) also utilized the BST model for training preservice teachers to acquire classroom-based ABA practices. Sawyer et al.'s study evaluated the effects of BST on performance of the evidence-based practices of the undergraduate pre-service special education teachers. The study outcome indicated correct responses across all reviewed evidence-based practices. Furthermore, Kirkpatrick et al. (2020) used the BST model to train future teachers to apply a token economy strategy during small group instruction. As a result of this study, BST proved to be an effecting method for teaching the strategy. While this training was a part of a special education program, it is not mandated by all teacher preparation programs across the U.S.

VanDerwall (2021) concurred with Kirkpatrick et al.'s observations and also discussed the lack of targeted practical preparation in teacher preparation programs. Following the results of the VanDerwall's study, the participants were successful in learning to code articles and apply effective behavior management strategies and skills. Successful outcomes of the aforementioned research studies support the need for novice teacher training and the use of BST as a practical training approach that could be applied on a wide scale. However, it is evident that there is not sufficient research on BST and new teacher training, and it is needed in order to help reduce problem behaviors and improve the overall school culture and climate.

Audience

The purpose of this research study was to provide a guided training for novice teachers who worked with students with challenging behaviors. Additionally, district leadership, school-based leadership, teacher preparation programs, as well as any novice and veteran teachers would benefit from this research study.

Setting of the Study

The study took place in a middle school in the southeast region of the U.S. The researcher targeted novice teachers who struggle with classroom management and work with students that exhibit disruptive behaviors in a classroom setting. The study took place in a public school for students with diagnosed and undiagnosed behavior problems. The school has a high level of poverty and a high turnover of staff. The overall performance is of the school higher than 28% of schools in the state and is similar to its district. Its students' academic growth is higher than 35% of schools in the state and

lower than its district. The school's 48% of its eighth-grade students are reading at or above the grade level target.

Researcher's Role

The researcher is a school climate specialist who works with both teachers and students in elementary, middle, and high schools. Her current professional role was to improve the overall culture and climate of schools as well as assist with Positive Behavior Intervention and Supports (PBIS) implementation. The researcher possesses a strong academic and practical knowledge of ABA strategies had has been working with teachers in the school setting for many years. The researcher has been a special education teacher since 2010. Prior to becoming a school climate specialist, the researcher worked in two different districts in Georgia in which she worked with students who were identified with behavior disorders as well as learning disabilities.

Purpose of the Study

The purpose of this single-subject research study was to examine the impact of BST on novice teachers' practical implementation of ABA strategies in the classroom setting. Relying on the seven dimensions of ABA (Cooper et al., 2020), the important goal of this study was to evaluate the effect of BST on reduction of student problem behaviors. It was hypothesized that BST would produce a collateral practical effect on the teacher participant's implementation of ABA strategies with potential reduction of student problem behaviors in the classroom environment. The key aspects of the novice teacher training are identification of problem behaviors and development of function-based intervention relying on the science and principles of ABA. Relying on the social validity questionnaire, novice teachers were assessed on perceived benefits of BST and

its potential contribution to positive school culture and climate. Additionally, the researcher aimed at applying the BST model as prescribed by its original design. As such, teacher participants received instructional support and feedback, and engaged in modeling and rehearsal.

Chapter 2: Literature Review

The purpose of this single-subject research study was to examine the impact of BST on novice teachers' knowledge of the ABA techniques and generalization of practical skills to the classroom setting. Relying on the seven dimensions of ABA (Cooper et al., 2020), the important goal of this study was to evaluate the effect of BST on reduction of student problem behaviors. Findings from the study may be used to provide guidance for novice teachers who work with students with challenging behaviors and help to improve the school's overall culture and climate. The researcher used the ERIC database to search for the most recent research studies that were published within the last 5 years and focused on the use of BST for teacher training, PBIS implementation, classroom behavior reduction approaches, maladaptive behavior, and origins of ABA.

Origin of Applied Behavior Analysis

Cooper et al (2020) defined Applied Behavior Analysis (ABA) as "a scientific approach for discovering environmental variables that reliably influence socially significant behavior change that takes practice advantage of those discoveries" (p.2). The overall goal of ABA is to increase socially significant behaviors and decrease behaviors that may interfere with learning and social integration (Cooper et. al, 2020).

B.F. Skinner's experimental analysist of the effects of consequences on behavior is considered among his most powerful and fundamental contributions to the science of ABA (Cooper et al., 2020). Skinner (1953) believed that operant behavior and its interaction with environment is a separate and important branch of the experimental research, which allows for simple and convincing demonstrations of orderly functional relationships between behavior and different forms of environmental events. Through

systematic manipulations and scheduling of environmental stimuli that accompany and follow behaviors, Skinner and his colleagues uncarted and justified the fundamental concepts of operant behavior, which serves a theoretical foundation for behavior analysis today.

Behaviorism

In the early 19000s, psychology was overshadowed by the study of states of consciousness, mental images, and other mental developments (Cooper et al, 2020). However, John B. Watson (1924) known at that time as the "spokesman for a few directions in the field of psychology" discussed that psychology was observable behavior and should be an objective study of behavior that includes direct observation of relationships between environment stimuli (S) and the responses (R) they induce (Cooper et al (2020). Additionally, Watson was convinced that his explanation of behaviorism would also allow prediction and control of behavior and would allow experts to improve practices in areas such as education, business, and law (Cooper et al., 2020).

Experimental Analysis of Behavior and Radical Behaviorism

B.F. Skinner's *The Behavior of Organisms* (1938) began the formation of the experimental branch of behavior analysis (Cooper et al., 2020). The text summarized the research that Skinner conducted in the laboratory from 1930 to 1937 in which he created both the respondent and operant type of behaviors (Cooper et al., 2020). Respondent behavior is a reflexive behavior that was introduced by Ivan Pavlov (1927) that brought out responses immediately after stimuli was elicited (Cooper et al., 2020). This type of behavior was considered involuntary (Cooper et al., 2020). Skinner also noted that there was also an explanation for behaviors that happened voluntarily. He discussed instead of

creating scenarios or “hypothetical constructs”, that he would observe environments and determine the causes of behavior (Cooper et al., 2020). He created a three-term contingency S-R-S in which he called the behaviors, operant behaviors (Cooper et al., 2020). With operant behaviors, Skinner was able to determine the effects of consequences on behavior (Cooper et al., 2020).

Additionally, Skinner also included private events into all parts of behavior. Skinner created radical behaviorism to include all human behavior. Radical Behaviorism does not restrict the science of behavior and also includes private events.

Seven Dimensions of ABA

Baer, Wolf, and Risley 1968 as cited in Cooper et al., 2020 discussed the seven dimensions of ABA which include Applied, Behavioral, Analytic, Technological, Conceptually Systematic, Effective, and Generality. The applied in applied behavior analysis includes the behavior changes that are socially significant and improve their day-to-day life (Cooper et al., 2020). The behavioral dimension includes behavior that is chosen for the study that needs improvement, must be measurable and has to be include specific and trustworthy measurements of behavior that is significant in applied research. Additionally, it must include changes made by all involved. The analytic dimension includes a functional relation between the events and a change in target behavior. The technological dimension includes procedures that identified and described with precise details and instructions. The conceptually systematic dimension includes how and why changing behavior was effective and includes ABA principles that were used. The effective dimension must alter behavior enough to be socially significant. Lastly, the generality dimension includes a behavior change that lasts over time in different

environments.

Maladaptive Behaviors and Child Development

Oostdam et. al (2017) defines maladaptive behavior at school as "any type of behavior by students in a classroom or school environment that violates a written or unwritten social norm or school rule" (p.602). Additionally, this type of behavior can be an ongoing or single occurrence. Moreover, maladaptive behavior increases with age and peak during adolescence (Oostdam et. al, 2017). Additionally, hormonal and neurological changes influence maladaptive behaviors especially due to students wanted social acceptance from their peers (Oostdam et. al, 2017). Also, family environment and social economic status, parent traits can contribute to the impulsivity of students who exhibit maladaptive behaviors (Oostdam et. al, 2017). Oostdam et. al (2017) discussed the research that has been conducted in relationship between students' motivation to learn and their basic psychological needs, but there is a limit amount of research in how psychological needs relate to different types of maladaptive behaviors in the classroom. Oostdam et.al (2017) conducted a student in which they determined the relationship between maladaptive behavior of secondary school students (grades 8 and 9) and the degree to which both teachers and peers address their needs for competence, autonomy, and relatedness. The study was conducted in the 2013-2014 academic year at several Dutch secondary schools. Students in grades 8 and 9 from the prevocational (VOC), general (GEN), and pre-university (UNI) level were asked to fill out questionnaires about their socially maladaptive behavior and the extent to which, in their perception, their need for competence, autonomy, and relatedness was met by their teachers and peers (Oostdam et. al, 2017). The researchers conducted demographic data that included cultural

backgrounds and levels of education. The questionnaires were conducted by six test leaders between March and June 2014 and a teacher was always present when students conducted questionnaires. Students were provided a maximum amount of 50 minutes and most students finished the questionnaire in an average of 20 minutes. The students were provided with different questionnaires. One was conducted on socially maladaptive behavior at school and the other was on teacher at social context questionnaire which asked students to disclose the extent to which students felt that their teachers provided a need for competence. The results indicated that an average of summed scores in subscales such as gender, grade, and educational level. The scale indicated that students reported very little maladaptive behavior. The subscales showed large standard deviations, which showed a significant difference in the individual differences and indicated that students in this student rarely or never displayed maladaptive behavior and some students frequently engaged in this type of behavior. The responses on the questionnaire for teachers resulted in a neutral score. Overall, the results showed significant negative correlations between the various types of maladaptive behavior at school and the extent to which students feel their teachers and peers meet their basic psychological needs and those students who feel supported by peers and teachers report less maladaptive behaviors.

Moreover, while Oostdam et. al (2017) discussed the relationship between motivation and psychological needs of students, Blair et al (2004) discussed the contributions of temperamental styles and emotional coping strategies and how they contribute to the development of social competences and behavior problems. An important concept noted by Blair et. al (2004) was the development of social competence which is the being able to manage social situations with individuals within and outside of

family dynamics. Additionally, social competence can predict social and academic outcomes and in terms can also predict school readiness. In addition, emotion regulation is also an integral component and can be linked to various aspects of social functioning such as socially appropriate behavior, reputation with peers, modification, nervousness, and compassion.

Additionally, Cole et al (1994) as cited in Blair et al (2004) noted that individual variations of characteristics of emotion regulation will become qualities of a person's personality. Additionally, children's everyday behavior can begin the trajectory towards a clinical disorder. While in preschool years, some children may be oppositional and defiant, when the behaviors are frequent, intense, or persistent beyond what is considered normal developmental course, they become systemic and may elevate to clinical characteristics of a disorder.

Lastly, temperament includes positive and negative emotionality and effortful control (Blair et al., 2004). Specifically, negative emotionality consists of irritability and frustration combined with fearfulness and some instances of discomfort and fear/anxiety and a prediction of internalizing behaviors that may be an indicator of various forms of behavior problems (Blair et al, 2004).

Blair et. al (2004) proposed to further explore the development of social competence and incompetence, including externalizing and internalizing behavior as it related to interactions regulation. Blair and colleagues 'study focused on emotional regulation, coping mechanisms which are defined as the modification of emotional reaction when confronted with an emotional arousing problem situation and includes the use of emotional and cognitive strategies. Blair and colleagues used three specific

emotional coping patterns: constructive coping (use of cognitive problem-solving strategies), passive coping (avoidance and/or denial of the problem), and emotional venting (emotional release of frustration). Characteristics of temperaments, emotion regulation, and social competences were examined in 153 preschool age children in a large suburban area. The student participants included four cohorts that were followed for 3 consecutive years. In this sample, 78% were described as Caucasian, 11.4% African American, 2.3% Asian, 4% Hispanic, and 5.3% were identified as "other". They used various preschool and daycare centers targets based on past liaison relationships and director willingness to participate. The study included approximately 25% of all 3-year-olds' families in these centers decided to participate. The authors collected data by using the Children's Behavior Questionnaire (CBQ), which is a temperament measures. This assessment tool is an extension of Rothbart's Infant and Toddler Behavior Questionnaires that measures temperamental characteristics of children ages 3-7 years on a 7-point Likert scale. It assessed the manifestation of various behaviors over the course of 6 months.

The results indicated the use of passive coping strategies may play a significant role in the development of maladaptive behaviors in young children. However, there were several indicators that found interaction between temperament and regulation. Additionally, more internalizing behaviors for girls and externalizing behaviors for boys. This study may be important in explaining how various negative emotions in combination with regulation may predict problems in social-emotional adjustments.

Fantuzzo et. al (2005) conducted a study to examine the unique relationship between multiple dimensions of classroom behavior adjustment problems and salient social-emotional competencies for urban Head Start children. The study extends to the

Adjustment Scales for Preschool Intervention (ASPI) and assesses low-income children being served in early childhood programs. The participants were a representative sample that was drawn from a large, urban Head Start program in the Northeast. Children were recruited from 12 classrooms representing the programs in six geographical clusters. The 210 participants were children ranging from 42 to 72 months. The gender was evenly distributed between 52% of male participants and 48% female participants. Most of the children were African American (92%). Fantuzzo and colleagues collected data on classroom behavior adjustment using the Adjustment Scales for Preschool Intervention (ASPI) in the fall. In the spring, they collected data on emotion regulation using the Emotional Regulation Checklist (ERC), interactive peer play using The Penn Interactive Peer Play Scale (PIPPS-P), approaches to learning using the Preschool Learning Behaviors Scale (PLBS), and verbal ability using the Verbal Ability Cluster score from the Differential Abilities Scale (DAS). The ASPI was completed by teachers as part of a program-wide assessment initiative to meet the federal Head Start Performance Standards.

The results of this study revealed that dimensions such as aggression, oppositional, inattentive/hyperactive, withdrawn/low energy behaviors, and social reticence were areas of concern. The emotional regulation checklist showed underlying dimensions such as emotional regulation and lability/negativity which includes mood swings, angry reactivity, and intensity of positive and negative emotions. Next, the interactive peer play revealed three reliable dimensions such as play disconnection, play disruption, and play interaction which showed a strong association between peer playing the home context and children's classroom behaviors and approaches to learning, self-

regulation, and behavior problems. There were three types of data collection that consisted of (a) data from primary caregivers, (b) data from participating children's teachers, and (c) individual direct assessments of children. The results indicated a bivariate correlation between ASPI dimensions assessed in the fall and measures of emotion regulation, interactive peer play, and learning behaviors assessed in the spring. In addition, socially negative behavior early in the school year accounted for a significant amount of variance in emotion dysregulation at the end of the school year. Also, socially disconnected behavior in the classroom was associated with lower levels of adaptive emotional interactions and awareness of self and others. This study identified conflicted shyness that was defined by social fear and anxiety despite a desire to interact socially and resulted in reticent behavior and social disinterest.

Teacher Training

As early as 1992, Skinner and Hales were the first authors who notes deficiencies in educators' acquisition and application of behavior management skills. They surveyed 118 preservice and 22 in-service teachers who were enrolled in an undergraduate or graduate behavior management course at the time of the study. The purpose of this study was to examine and analyze participants' explanations of student behaviors as well as determine if their explanations changed after taking an ABA orientation course over a two-semester period. The course included classroom management strategies, positive reinforcement, shaping, extinction, and various specific ABA techniques. The results of the study revealed a major shift in the participants' responses in the post assessment indicating a shift towards understanding the function of behavior from the environmental rather than developmental point of view.

Thirty years after Skinner and Hales' (1992) research study, Reinke et al. (2018) highlighted that the fact that many educators expressed the need for request assistance with classroom management and student behaviors in the classroom environment. There should be "prevention intervention that focus on training teachers to use classroom strategies that are developmentally appropriate and supportive of students' emotional and behavior growth (Reinke et al., 2018, p. 1043). The purpose of this study was to determine whether the Incredible Years Teacher Classroom Management (IYTCM) program has direction benefits for children with special needs in kindergarten through third grade. Participants included 105 teachers and 1817 students. Additionally, a multi-level moderation analysis was used to determine where the treatment effects on students' outcomes varied based on demographic variables. The IY TCM program utilized the social learning theory and provided teachers video recording with effective strategies that included cultural contexts of the participants' classroom dynamics. Moreover, the teachers who participated in the program participated over the course of the school year and if they missed training sessions, an individual session was provided to them. Additionally, each teacher conducted a Teacher Observation of Classroom Adaptation-Checklist which is a 54-item measure of child behavior on each student in their classroom. Additionally tested also included the Woodcock Johnson III Normative Update Tests of Achievement. This achievement test was conducted by outside researchers who were not aware of the study. The results of the study indicated that teacher training significantly improved teachers' concentration, identification of problem behaviors, and social competence.

In contrast to Reinke et al (2018, Branch et al. (2018), compared the effectiveness

of fluency training and precision teaching on behavior support plans (BSPs). Branch and colleagues aimed at exploring the application of precision teaching with fluency. The study involved educators who worked in the community residential environments where they implemented BSPs. Participants were divided into five teams working with individuals with developmental disabilities and severe challenging behavior. The results of this study revealed that those educators who received the fluency training and applied the newly learned skills recalled information with accuracy only after additional training.

Additionally, Dillard (2016) discussed how preservice training in professional learning communities also benefits novice teachers. Dillard discussed that the process by which prospective teachers were trained in profession learning communities (PLCs) has created the expectation of teachers to work collectively with peers. It also helps teachers to work interdependently with their classmates, teachers and also help others who are mutually accountable to ensure that students are learning (Dillard, 2016). Within this study, Dillard aimed at determining the relationship between a novice teacher's training in PLCs and their ability to be a member of PLCs. Moreover, Dillard's study addressed specific experiences that were not in the PLC training and could have better prepared novice teachers to be a member of PLCs. The author used a triangulation case study designed which relied on the collected data from the specific PLC coursework artifacts, three interviews for each participant, and a maximum of six journal entries for each participant. There were 13 teacher candidates assigned to the researcher in the Residency 1 program. However, only four teacher candidates were able to complete the study due to various reasons. The results of this study indicated that providing training on PLCs is very beneficial to new teachers. It also provides teachers with the skills needed to

collaborate with their colleagues from the beginning of the school year and throughout the school year.

Melnick and Meister (2008) conducted a qualitative study in which they compared beginning and experienced teachers' concerns relative to addressing student problem behaviors, time restrictions and assignments, parent communication, and academic training. The authors mailed letters to principals across the 50 states and asked them to distribute the survey information to at least ten teachers who were identified as first or second year teachers. Additionally, the authors also emailed teachers by locating email addresses from school district listings. They received a total of 494 respondents with 276 of the respondents being new teachers. The survey data was analyzed to compare concerns of both experienced and novice teachers that received a Likert scale. The authors noted it issues that were important to teacher participants and pointed to those executives accountable for formulating applicants for initial certification as well as to school district personnel responsible for mentoring new teachers and reinforcing professional development for in-service teachers. The outcomes of this study demonstrated a significant gap between the preservice teacher training and classroom applications. Moreover, it noted the importance of providing novice teachers with a variety of field experiences during their teacher preparation programs so that they are better equipped to handle maladaptive behaviors when they begin working in an uncontrolled environment. While this study provided some concerns and lack of preparation of teacher preparation programs, it also focused on some concerns of experienced teachers to compare if they believed that their teacher preparation program prepared them as well to teach students with challenging behaviors. Overall, the study

showed that overall, there is a disconnect in preparing teachers to be equipped for the classroom and there needs to be coursework to prepare them for the behaviors that they may experience.

Moreover, Flower et al. (2017) indicated that knowledge of classroom behavior management strategies is an important part of a pedagogical skill repertoire, but many new teachers do not feel adequately prepared when they begin their career. Flower and colleagues used a survey methodology to conduct an exploratory study of the number and type of evidence-based behavior and classroom management strategies presented in coursework provided by college/university and alternative certification programs in general and special education. The study examined the behavior management content that was included in preservice teacher preparation programs for general education and special education. The study participants included 74 coordinators of university-based and alternative certification programs for teachers in a southwestern state. Using a survey method, the researchers collected information from participants about the forms of behavior and classroom management tactics and competences that were covered in their teacher preparation programs. The results of this study revealed preservice educators were more likely to be taught universal classroom management strategies than more specific skills and strategies for increasing or decreasing classroom student behaviors." Additionally, there were major differences between the alternative certification routes general education teachers and college/university special education teacher certification programs in the areas of behavior management and evaluation. Additionally, while over half of the of the special education programs addressed more extensive behavior strategies, many of the general education programs focused more on academic

preparation. This indicated a significant gap between preparation programs and special education laws. Special education students are expected to be in the least restrictive environments, but teachers are not prepared to handle students with extreme behaviors. Additionally, the study also mentioned that in order for students to qualify for special education and/or more intensive interventions, it relies on data from teachers. However, teachers are not adequately taught how to collect data or provide the necessary intervention for those students.

Following Flower et al.'s (2017) leads relative to notice teachers' preparation, Garwood and Van Loan (2019) discussed the effects of challenging behavior of students with emotional and behavior disorders (EBD) on novice teachers. The authors conducted a mixed methods study, during which they assess an undergraduate course that focused on relationship-based approaches to positive behavior support and its impact on pre-service educators' dispositions toward inclusive classroom practices for students with EBD. The authors used a triangular design, and they gathered information from multiple sources of corresponding data related to a research topic, which allows for in-depth analysis. They used both qualitative and quantitative methods to address the sample size included detailed data due to lack of prior research on the topic. This is important because it shows that there is a lack of preparation for novice teachers and their inability to reduce behaviors in their prospective classrooms. The survey results indicated that 41 pre-service participants made improvements in their knowledge and understanding of compassionate behavior management, intentional relationship building, and establishment of a welcoming classroom environment.

Moreover, Kiramba et al (2022) also examined perceptions among novice general

education teachers using 2015/16 National Teacher and Principal survey data. Additionally, the growth of cultural diversity within schools in the US demands that teacher preparation programs prepare teachers who are equipped with the necessary knowledge and skills to support the success of all students (Kiramba et. al, 2022). Also, teacher beliefs and perceptions have been shown to predict teacher preparedness and student outcomes. This study used a teacher questionnaire that collected information on multiple categories such as teacher backgrounds, working condition, professional development, teacher attitudes and school climate (Kiramba et al, 2022). The results of the study indicated that the correlation among the dependent variables ranged from 0.38 to .60. The correlation between the independent variables and controlling variables ranged from -0.01 to 0.69. The findings revealed that teachers with training in teaching multilingual learns reported better preparation in all the five aspects of general teacher effectiveness examined in the study such as using a variety of instructional methods, teaching subject matter, assessing students, using student assessment data to inform instruction, and differentiating instruction.

Disruptive Behaviors and School Climate

Shahzad et. al (2021) defined disruptive behavior as “an inappropriate action of an individual which disturbs his daily routine and academic activities” (p.1). Moreover, having students in a classroom that is disruptive not only impedes the learning of that student, but also interferes with the learning of other students. In addition, with the factor of disruptive behavior in classrooms, there is a need for strategies to assist with interfering behaviors.

School climate plays an important role in the school experience of the student and

their learning process (Blank & Shavit, 2016). “School climate, which is the sum of behaviors in a school, is also defined as the character of the school “(Taskin & Canli, 2021, p.11). According to Blank and Shavit (2016) stated that classroom climate refers to the student insights of different facets of their classroom atmosphere. Without having an orderly classroom, there is a lack of effective teaching and learning which could lead to a lack of student achievement (Blank & Shavit, 2016).

While it is important to have a positive school climate to reduce schoolwide problem behaviors, it is not feasible without adequate positive behavior supports in place. Todd et. al (1999), indicated that successful reduction of problem behaviors enhances adaptive behaviors, progress in the student’s overall school success, and use of resources, abilities, and standards available at the school. Many studies also indicated that there is correlation between positive school climate and reductions in substance abuse, mental health problems, peer bullying, and aggressive behaviors in schools (Cornell et al.,2021, p. 11).

Disruptive behavior in classrooms is an important challenge for learning in schools and a risk factor for students’ academics and an important source of teachers’ work-related stress (Närhir et. al., 2017). Earlier research shows that clear behavioral expectations, monitoring students’ adherence to them and behavior-specific praise are effective methods to decrease disruptive behavior (Närhir et. al., 2017). Although behavior problems are common in middle schools, most of the intrusions have been developed and researched in elementary schools. The study assessed the effects of a class-wide intervention on classroom behavioral climate and disruptive behavior, on teacher-experienced anxiety and on the time needed for classroom management in middle

school (Närhir et. al., 2017). The classes were selected for intervention by their teachers based on poor behavioral climate (Närhir et. al., 2017). The intervention was based on teachers' cooperation; they mutually agreed on clear behavioral expectations, used positive feedback and, if needed, applied concerns in response to high rates of disruptive behavior (Närhir et. al., 2017). The results indicated vast effects on classroom behavioral climate according to teachers' assessments, and somewhat more inconsistent effects on classroom behavioral climate according to student evaluations and in the time needed for behavior management (Närhir et. al., 2017). The behavioral climate of the classes remained at a constant level during the follow-up (Närhir et. al., 2017). The intervention was well accepted by teachers and students. The results suggest that an easily applicable intervention may improve classroom behavioral climate in middle schools (Närhir et. al., 2017).

Additionally, Ingemarson et al (2019) discussed how the clarity of school rules and teachers' use of praise are strategies suggested to facilitate a positive classroom climate. Studies indicate Moreover, classroom climate can be divided into three area 1) teacher-student relationships, i.e., teachers' emotional and academic responses, shown to influence students' pro social behaviors and academic goals, (2) Peer relationships, and 3) educational atmosphere (Ingemarson et. al, 2019). This study included 2226 students in 20 schools and 109 classes. Students in classes with less disruption rated all variables more positively. The results indicated that classroom climate deteriorated over time in both groups, even if the low disruption group perceived their climate as more positive at follow up (Ingemarson et. al, 2019). Additionally, the results showed that clarity of school rules did not significantly contribute to classroom climate lengthwise, whereas

teacher's use of praise to some magnitude did. While clarity of school rules is not longitudinally associated with classroom climate, teachers may influence the learning environment by giving praise, despite the level of disturbance (Ingemarson et. al, 2019).

Cornell et. al (2013), conducted a mixed measure study to determine the impact peer victimization and bullying on school climate and safety conditions in Virginia's public high schools. In each high school, randomly selected groups of ninth-grade students and teachers completed anonymous surveys to measure school safety conditions and aspects of school climate in their respective high schools. With this survey, A total of 289 of Virginia's 314 eligible public high schools provided both teacher and student survey data for this study. Additionally, measures of peer victimization were derived from a sample of approximately 25 ninth-grade students and 10 ninth-grade teachers in each school who completed a school climate survey as part of the Virginia High School School Safety Study (VHSSS) in the spring of 2007. While the results of the study did show some correlation to drop out rates and school climate, there were other factors that also contributed to dropout rates such as socioeconomic status and also the school size and the suspension rates of those who had discipline issues. Moreover, the overall idea of the study was beneficial to see how school climate contributes to dropout rates, but the measure of collecting the data outside was not very beneficial. The researchers noted that there was a small deviation between academic performance and dropout rates as well as other factors such as social economic status may also contribute to dropout rates as well.

Similarly, to Cornell et al.'s (2013) study, Gregory et al. (2010) discussed the importance of victimization and bullying in schools in Virginia as they contribute to school climate. Within this mixed methods study, authoritative discipline theory, which

suggests those two complementary aspects of school climate—structure and support are two important concepts that were examined. Moreover, authoritative discipline theory proposes a framework to assess the conditions that are associated with school safety. The study participants were 7300 ninth graders and 2900 teachers randomly selected from 290 high schools in the state of Virginia. The researchers conducted a school climate survey which focused on school level factors, individual level factors, school safety, and structure and support. The results indicated support for authoritative discipline theory, which is emerging as a new framework for conceptualizing developmentally appropriate school discipline for adolescents. Additionally, student perceptions of structure and support accumulated at the school-level were correlated with less student victimization and less bullying among students. For example, tactics for student behavior management often focus on classroom-level interventions, but evidence from this study shows that that disciplinary structure helps to expand from the level of classroom practice to a schoolwide level suggests that a broader approach should be considered. It indicated that students that felt support and structured had a positive impact on the school climate. This study was beneficial because it shows the importance of having school-wide positive interventions and support as it helps to have a positive school climate throughout the school building. A weakness of this study indicated how a survey is more hypothetical but does not implement a change in the environment and therefore does not show the impact that could of proving an intervention and how it could positively affect school climate.

Positive school climate has had a positive impact on adolescents and health risks. LaRussa et al (2010) conducted a structural equation modeling study in which the authors

evaluated teachers' impact on positive school climate and its contribution to student behaviors and their association to drug use or depression symptoms. Additionally, it is suggested that schools with positive school climates positively impact students to have healthy norms. LaRussa and colleagues tested four hypotheses. LaRussa et al. (2010) wanted to test school climate and adolescent experiences such as teacher support and regard for students' perspectives independently help to create respectful climates. Additionally, LaRussa and colleagues (2010) wanted to show that respectful climates and teacher support produce greater social belonging that is associated with lower levels of individual depressive symptoms. Moreover, a respectful climate is also associated with fewer depressive symptoms and respectful climates discourage friendships with drug-using peers. It also produced healthier school drug use norms which can in turn influence individual drug use. The sample was obtained using random digit dialing procedures that reaches youth both in and out of school and LaRussa and his colleagues (2010) requested parental consent for participants who were under 18 years old. They obtained participants using a random digit dialing procedures that reaches youth both in and out of school. They assessed teacher support with four items regarding the presence of adult role-models, caring teachers, and teachers or counselors who help with schoolwork and problems. The results indicated that high school students who have teachers who are seen as supportive and sensitive to their needs are more likely to experience favorable climates of respect and to feel a sense of social belonging in their school. However, the participants were randomly selected via a telephone survey, which could indicate that the data is not necessarily accurate, and the information is only relied on phone calls and may not represent a large number of participants.

Blank and Shavit (2016), conducted a study in which they provided questionnaires to students on school culture and climate who were in 5th and 8th grade. The study evaluated a potential correlation between student disruptive behavior and student disorders to the teacher's classroom management skills. The participants were selected students by those that were taking standardized testing and added the questionnaires to the testing information. Blank and Shavit (2016) then merged the information to indicate which school the participants were enrolled in from the information in the testing database. While the results of this study indicated that students were able to learn in their disruptive environment, it also indicated that there were a variety of behavior concerns happening in the classroom and were disruptive to learning for some of the students. This is important to my research study because it further proves that disruptive behavior impedes the learning of others.

Lastly, Hoffman et. al (2021) discussed how classroom behavior should be inclusive in education. The purpose of this study was to determine the perceptions of classroom behavior climate from the perception of students and identify predictors of classroom behavior climate and other associated variables. These students included 650 German students from secondary schools (5th-9th grade) of whom 83 students are diagnosed with special education need (Hoffman et. al, 2021). The classroom behavior climate was measured via subscales to include students' possibilities to study and concentrate on teaching, disruptive behavior, physical and psychological safety, and caring for the physical environment. The results indicated significant differences in students' perceptions depending on which track they were on and also males struggled with predicting the perception of physical and psychological safety (Hoffman et. al,

2021).

Positive Behavioral Interventions and Supports

In the early 1980s and up until the early 1990s, there was an increase in removing students that displayed disruptive behaviors (Robert, 2020). There was an influx in school discipline referrals and students were suspended and/or expelled for violation of the school code of conduct. With the growing number of disciplinary issues and school safety concerns, federal and state authorities began enforcing alternative disciplinary methods (Robert, 2020). Positive school culture and climate is an important factor that contributes to the reduction of problem behaviors in schools, and it is impossible to achieve without the evidence-based positive behavioral interventions and supports (PBIS). Carr et al. (2002), as cited in Robert (2020), noted that, "the science of positive behavior developed from a combination of ABA, the inclusion of movement, which was mandated by IDEA (2004), and person-centered approach to student learning and social engagement" (p. 4). According to Notlemeyer et al. (2018), PBIS is a multi-tiered system of evidence-based supports that is built to improve all students' prosocial behaviors and academic outcomes and promote a positive school climate." It is important to note that PBIS operation calls for a schoolwide cultural change and concentrates on positive interaction among students and school staff. It confronts educator unfairness and discrepancy=thinking practices that may lead to discipline inequality.

According to Gage et al. (2020), school suspensions and expulsions have been an ongoing issue of concern for schools. The unfortunate outcomes of the disciplinary practices often lead to low academic achievement, high juvenile crime and drop-out rates. Gage and Colleagues conducted a meta-analysis study that examined the impact of

schoolwide positive behaviors intervention and supports (SWISPBS and in California schools. The authors compared suspension and expulsion rates between the 98 schools with SWPBIS and the 98 schools without SWPBIS. The results of the study suggest that schools that had been implement SWPBIS with fidelity had significantly fewer suspensions. Moreover, this study discussed the multi-tiered framework of SWPBIS. While Tier 1 of SWPBIS was preventative measures, Tiers 2 and Tier 3 addressed problem behaviors with an increase and individuals approaches to behavior intervention. The researchers looked at the tiered fidelity inventories (TFI) that each school leader completed. A TFI is a measure of application of core PBIS values within the school setting. While the study initially started with 7,251 schools, the researchers removed all schools who did not receive a gold or platinum recognition level that is an indicator of high implementation fidelity. There were 83 schools that had gold recognition and 15 schools with platinum recognition. The results indicated that the schools with SWPBIS demonstrated some improvement in their student problem behaviors but, results in other states such as Georgia were much higher. However, the study did indicate areas of concern with fidelity especially for areas of Tier 2 and Tier 3 with the data. This is important to note in my study because most students with behavior issues are usually Tier 2 and Tier 3 behavior students. Additionally, it is beneficial to show how teachers who are skilled in working behaviors are able to address problem behaviors in the future.

Additionally, Estrapala et al. (2021) conducted a meta-analysis study to address problem behaviors at the high school. The authors looked at Tier 1 PBIS' impact on reduction of the student problem behaviors. Many important demographic factors, such as school size, organization and culture, developmental level, and social validity.

Estrapala et al. recruited 1,164 high schools and reviewed each school's Tier 1 components with accounted for school-wide expectations, acknowledgement systems, behavior response system, stakeholder involvement. The results of the study indicated improvement in behaviors and officer discipline referrals, while academic improvement varied amongst the participants. This study was beneficial in that it showed the importance of Tier 1 supports in a school and how they can make a positive impact in behaviors. Within this study, Estrapala and colleagues searched topics including HS or secondary, positive behavioral interventions and supports, positive behavioral support, positive behavioral intervention, or multitiered systems of support, and Tier 1, universal, or schoolwide in the search criteria. While 217 articles were selected, only 16 articles were used for this study. They coded each article across seven categories such as methodological characteristics, Tier 1 components, HS adaptations, treatment fidelity, social validity, student behavior outcomes, and student academic outcomes. All studies measuring ODR rates reported improvements to varying degrees, which is beneficial to my study as that is the overall goal is to help novice teachers, but also improve overall school culture and climate.

Moreover, While Estrapala and Colleagues (2021), searched other previously conducted studies, Alperin et al. (2020) conducted a meta-analysis study in which they reviewed detailing the name of the intervention, function of the intervention, dosage, parent involvement, use of manual, fidelity, progress monitoring, and social validity. intervention effects and how the effects impacted the implementer and the students. The researchers focused on middle schoolers in Grades 6 through 8 with conduct disorder or at risk of displaying disruptive behaviors. It is important to note that this study is a first

organized evaluation of the school outcome literature for behavior interventions used with middle school students displaying problem behaviors. To be specific, a total of 51 research studies that appeared inn publications investigations between 2000 and 2020 accounted for 6,498 students and 264 implementers and were coded on four dimensions to include sample, interventions, methodology, and outcomes. Alperin et al. (2021) stated, "Approximately 78% (40/51) of the studies specified the behavior function of the intervention that was used with students. Sixteen studies detailed interventions that were designed to address skill deficits; 10 studies used interventions geared toward class-wide behavioral problems; eight studies employed interventions to address attention seeking from peers and/or teachers; and six studies had interventions for escape motivated behaviors." The evaluation examined the interventions effects on implementer and student outcomes of the studies selected, which varied. The reviewed studies evaluated the specific student attributes, fidelity of implementers' professional training, and measurement of intervention reliability. The results indicated positive results of all studies reviewed. The strengths of this study indicated the impact of having interventions and skills in place to address problem behaviors, which shows the need of my study. Limitations of this study included a lack of student problem-solving information (not able to solve problems without conflict), lack of information on implementers, attrition, and follow-up and parental participation. Educator experts should be aware of evolving challenges and consider barriers to implementation.

Behavior Skills Training

According to Parsons et al. (2013), BST is a practical, valuable, and widely used evidence-based approach for training human service personnel, educators, and

practitioners in implementing various behavior change strategies and related procedures."

Weston et al. (2020) demonstrated that BST is an effective training package for teaching a wide variety of behavior skills because it encompasses comprehensive instructions, modeling of the skills, opportunities for skill rehearsal, and delivering immediate performance feedback." It has been successfully used with students who are exhibiting behavior problems (Parsons, M. B., Rollyson, J. H., & Reid, D. H. (2013), Weston, R., Davis, T. N., Radhakrishnan, S., O'Guinn, N., & Rivera, G. (2020).

Weston et al. (2020) believes that it is beneficial to train future educators to be able to self-monitor their skills in her to ensure generalization over time. Weston and colleagues compared two BST packages, one with instructor feedback and one with video self-monitoring, in a multielement design embedded within a multiple baseline across participants' design. The authors aimed at training master's level graduate students to conduct preference assessments. The purpose of this study was to assess the impacts of performance feedback and video self-monitoring on performance fidelity results of pre-service students in the academic area of behavior analysis. There were four participants in this study that were enrolled in the Behavior Analyst Certification Board's verified course sequence. These students were working with students with autism in the ABA clinic. The results of this study indicated that each participant had an increase in their performance from baseline to intervention.

Furthermore, Parsons et al. (2013), also conducted a multiple probe design study across three groups of participants on BST's impact when training multiple human services staff members. The researchers recruited 10 staff members who work in an adult education program and evaluated a pyramidal BST approach to training staff members.

Within this study, there were 10 staff members including 7 teachers, 1 teaching assistant, and 2 technicians being assessed as they train other staff members. The results showed that all participants improved with their application of BST with their trainees. Baseline or pre-training sessions were conducted to ensure that the participants are following the step-by-step BST procedures. Additionally, they were assessed on providing descriptive, behavior-specific praise, teaching the "consumer" how to press the switch using a least-to-most prompting strategy, and providing a two-item choice opportunity to the "consumer." The results indicated that the group of participants improved their implementation of BST following participation in the training program and initially all participants scored low in following the BST procedures. This is extremely important in my study in that it indicates growth in the staff being able to implement the BST steps once they are taught with fidelity.

In addition, BST has been used to teach a broad range of behaviors and skills including functional analysis and stimulus preference assessments (Sarokoff & Sturmey, 2004) and complex behaviorally oriented skills (Hogan et. al, 2015). As such, BST can be used to train teachers in behavior management strategies with reliance on the science of ABA.

Sarokoff and Sturmey (2004) used BST to teach special educators how to use discrete trial training correctly. In this multiple baseline design across participants study, three special education teachers and one 3-year-old student with autism participated. All three teachers had previously had experience with using discrete trial training. The purpose of this study was to assist the student with adding new responses to the student's repertoire. The researchers the BST model in the course of 10 consecutive trials. All

participants had previous training in discrete trial training, but in this study, they also received additional training including definitions as well as provided previous data and graphs of the participants implementation at the previous training. The results indicated that each teacher showed improvement with the implementation of discrete trial training. Furthermore, this study shows that consistency and feedback allow growth of a skillset. This is important to my study because while working with my participants, I also will be providing constant feedback to ensure that they understand important concepts.

While Sarakoff and Sturmey (2004) used BST to teacher special educators how use discrete trial training, Klaft and Codding (2002) taught teachers how behavior skills training may be an effective model for supports supporting teachers on the use of the Good Behavior Game (GBG) (Kraft & Coddling, 2022). The study used a multiple probe design to examine the impact of BST on teacher adherence and quality of GBG implementation. The study took place in an urban elementary school located in the Midwestern region of the United States. The results indicated that BST effectively trained teachers to implement the GBG with high levels of adherence that were maintained for the duration of the study without needed follow-up.

Samudre et. al (2022) discussed how functional behavior assessments are beneficial when training new teachers how to collect antecedent-behavior-consequence data. Functional behavior assessment is a procedure that includes all individuals that work directly with a student who is exhibiting problematic behavior that affects their own or others' learning (Samudre et. al, 2022). General educators participate in this procedure through indirect or descriptive assessments, such as collecting antecedent-behavior-consequence data (ABC). However, there are many considerations that can impact a

general educator's capability to collect accurate ABC data. Inaccurate data can mislead appropriate responses and interferences for challenging behaviors made by a student's decision-making team, such as an Individual Education Program (IEP) team (Samudre et. al, 2022). Therefore, it is critical that researchers assess training interventions that can be used to provide training on this skill. "The purpose of this study was to evaluate the use of behavioral skills training (BST), with video vignettes used for modeling and rehearsal, to train pre-service general educators how to collect accurate antecedent-behavior-consequence (ABC) data using a structured recording format via a single-case research design" (Samudre et. al, 2022). This study also sought to program and assess generalization of the skill to a narrative format. This format is typically used in schools but often yields less reliable and more subjective data. Lastly, four administrations of a pre- and posttest were used to assess incidental learning of non-target information provided via instructive feedback. Results indicate BST was effective for training preservice general educators to collect ABC data using a structured recording format (Samudre et al, 2022).

In this study conducted by Hogan et al. (2015), the authors evaluated the correct implementation of BIP. Within this study, instructional staff was taught how to correctly implement components of two students BIPs in a nonpublic day school for students with disabilities. Hogan and colleagues collected data on correct implementation of each step of the main BIP component and converted to percentage of steps correctly implemented such as noncontingent reinforcement, differential reinforcement of alternative behavior, and extinction. The results indicated that teaching implementation of BIP components were effective. However, it was indicated that time and fidelity were important

components to ensure fidelity of this study. This study was beneficial to note that the authors worked with the staff one-on-one to ensure fidelity.

Additionally, Haug (2022) conducted a study to investigate whether training on behavior-specific praise (BSP) combined with a token economy for teachers would increase and maintain their frequency of BSP. The participants of this study included three female teachers at a child development center in a Midwest metropolitan area. The training sessions occurred in the classroom and cafeteria. The BSP and general praise (GP) training occurred within the toddler classroom Additionally, the information regarding token economy was presented in the cafeteria. Moreover, the two dependent variables in this study included the use of BSP and GP. The results indicated the use of BSP and GP were affected for increasing and maintain the use BSP for Teacher 1, However, the study also indicated that the other two participants did not finish the study due to one leaving the job and the other going on maternity leave.

Also, Kirkpatrick et al. (2019) discussed the use of behavior skills training with teachers. In this study, Kirkpatrick and colleagues (2019) conducted a systematic review of the literature regarding BST with teachers to summarize the current literature and to inform future practice. The categories based on this study's review includes a) teachers served as a the primary participants (b) BST was implemented with the teachers, and (C) the studies utilized a single-case research design and only cases that were single-case design studies so that they could only find students use by those in the field of ABA. The search procedures included a systematic search of electronic databases, an ancestral search of the articles meeting full inclusion criteria for this review, and a hand search of two peer-reviewed journals. The results indicated a total of 12 studies that were

published between 2004 and 2017. There was a total of 91 teachers who participated in the experiments. Additionally, within 11 experiments, a total of 51 students were participants. Additionally, this review with the total of 12 studies and 15 experiments reviewed indicates that is significant research on the use of BST, there is very limited research regarding the use of with teachers.

Overall, there is a need to address problem behaviors in schools and help novice teachers with strategies to assist in reducing these behaviors. Previous studies indicated ways in which BST was helpful to teach new teachers beneficial strategies. Additionally, studies involving the use of PBIS were also useful in showing how to reduce behaviors and additional studies which showed that the problem existed throughout various school districts.

Research Questions

To assist with gaps in literature, this study will answer the following research questions:

1. Does the use of BST affect the novice teacher's practical implementation of ABA strategies as measured by the Classroom Data Collection Tool?
2. What do novice teachers perceive as the impact of BST as measured by the social validity survey?

Chapter 3: Methodology

Participants

The researcher attempted to recruit between 3 and 5 middle school educators. All potential participants were general education teachers, who taught Grades 6-8. Potential participants met the study inclusion criteria if they (a) possessed a valid Georgia temporary or professional teaching certificate; (b) had less than 3 years of teaching experience in teaching in a general education classroom; (c) had no advanced training in ABA as part of their teacher preparation programs; and (d) was not currently enrolled in a master's or certification program in ABA. Each participant completed a prequalifying questionnaire to obtain information relative to the potential participants' age, gender, certification, education level, and teaching experience prior to the onset of this study.

Purposeful and convenience sampling was used as the primary sampling approaches in this study. According to Creswell and Guetterman (2018), purposeful and convenience sampling approaches are the researcher's deliberate participant selection tactics that draw from the participants' immediate availability at the specific time and place, qualification characteristic, as well as knowledge in the subject in the subject matter. Relying on the Gay et al.'s (2017) recommendations, snowball sampling may also be used. It will allow the researcher to recruit potential participants who may have met the study inclusion criteria during the recruitment process.

Instruments

Prequalifying Questionnaire

With the author's permission, the researcher used a modified version of the first part of Randazzo's (2011) Behavior Management Survey as a Prequalifying

Questionnaire (Appendix A) that consists of six questions. It solicited the potential participants' demographic, academic, and employment information with the use of check box or fill-in-the-blank. It was anticipated that completion of this assessment will take no more than 5 min.

Classroom Data Collection Tool

To assess for effectiveness of BST, implementation of positive and proactive classroom management practices as well as the effects of training, the Classroom Data Collection Tool was used (Appendix B). This open-source instrument was created by Simonsen et al. (2020) and is available to all users through Georgia Department of Education (2022). The Classroom Data Collection Tool contains three sections: Check for Evidence of Classroom Structure and Expectations (CECSE), Positive and Proactive Classroom Management Practices (PPCMP), and Tally Sheet for Assessing Student Engagement (TSASE). The CECSE checklist contains six items with a *yes* or *no* answer choice. The CECSE items are designed to check for evidence of the effective classroom management practices. In contrast to the CECSE section, the PPCMP items aim at examination of implementation of positive and proactive classroom management practices. The PPCMP includes four items that are accompanied by *Not in Place* (0), *Partially in Place* (1), and *Fully in Place* (2) selection choices. The TSASE section was designed to capture the overall student engagement by calculating the number of praises, reprimands, opportunities to respond, and disruptive behaviors. This section also allowed space for note taking. The tally results of the TSASE section reported the percentage of proactive engagement during the observation intervals. This section will assess whether or not BST influenced notice teachers' knowledge or the ABA strategies as well as

whether or not BST was generalized to the natural classroom environment. As such, the collected data will answer Research Questions 1. The researcher also observed the participants during two observation intervals for the total duration of 20 min during baseline, intervention, and follow-up phases of the study. There will be Interval 1 (1-10 min) and Interval 2 (11-20 min) of the observation time in the participants' classroom during each phase of the study.

Social Validity Survey

To assess for social validity, the researcher used the Social Validity Survey (Appendix C). The participants completed the Social Validity Survey at the beginning of the study as well as at the end of the study. With the author's written permission, the researcher adapted slightly modified version of the Skills and Needs Inventory-Functional Behavior Assessment and Intervention (SN-FBAI) that was created by Balmer (2022). Balmer's SN-FBAI relied on the assessment measure that was created by Dutt and colleagues in 2016. The original SN-FBAI version has been validated through administration to 338 special education teachers and 28 school support staff in seven schools in Singapore. As a result of Dutt et al.'s study as well as Balmer's (2022) study, SN-FBAI is a psychometrically sound instrument. Based on the results of alternate-forms reliability approach, SN-FBAI's reliability is at α=.96 as measured by Cronbach's Alpha (Balmer, 2022).

The Social Validity Survey contained four original questions that evaluate the degree of acceptance of BST as an effective training for acquisition of ABA techniques and generalization of newly acquired skills using 0-3 Likert scale (0 – Not sure what this statement means; 1 – Able to understand and discuss the terminology, concepts,

principles and issues related to the skill but cannot apply it to situations; 2 – Able to apply this skill to situations occasionally while needing minimum guidance to perform it successfully; 3 – Able to apply and perform this skill in all situations without assistance and are capable of coaching others in the application of this skill). For example, the first question of the Social Validity Survey evaluated the participants' perception of BST and its effect on development of effective behavioral intervention strategies based on information provided in the training. It reads: "Develop behavioral intervention strategies based on information provided in the training, direct observation of students, and application of skills in the classroom environment." Research Question 2 will be answered by the Social Validity Survey's question 4 that reads: "Use behavioral intervention strategies to promote and teach specific functional skills such as academic strategies, communication, social skills, etc. to shape positive culture and climate of the school environment." It was anticipated that completion of this survey will take no more than 10 min.

The sum of the individually selected choices from the 3-point Likert scale for each of the four questions of the Social Validity Survey produced the global indicator of the participants' perception. The total amount was divided by the total amount of the survey questions to obtain the global score for each participant. For example, if a participant indicates "Able to understand and discuss the terminology…" (Score 1), "Able to apply and perform this skill…." (Score 3), "Able to apply this skill to situations…" (Score 2), and "Not sure what this statement means…" (Score 0), the calculation of the global score will read 1 + 3 + 2 + 0: 4 = 1.5. The difference of the global scores between the pre-and-post survey results will be evaluated for each

participant. In addition, all survey questions were evaluated individually across all participants. Descriptive statistics was also used to indicate general tendencies in the social validity data and a comparison of how responses varied from pre- to post-survey.

Procedural Fidelity Checklist and Interobserver Agreement

The researcher created a procedural fidelity checklist (Appendix E) to ensure that procedures are completed with fidelity. This checklist was based on the recommendations from Cooper et al. (2020) and adheres to the protocols outlined in the study. It addresses the items assigned for assessment. Additionally, Cooper et al. (2020) also discussed the need to ensure that checklists are created in advance and that all procedures are completed as outlined in the study.

The researcher collected interobserver agreement data using a self-created Interobserver Agreement Form (Appendix D) that also follows the Cooper et al.'s recommendations. The researcher and another training professional took data observing the participants at the same time to ensure that the treatment was completed with fidelity. Frequency of fidelity and reliability of data collections was taken at a minimum of 25% for all sessions.

Materials

In order to conduct data analysis, the researcher had access to a computer, excel graphing software, and a calculator. Additionally, a colored marking tool was used to rate the participants' performance during each phase of the study which will answer Research Question 1. The researcher used multiple copies of the classroom data collection sheet and a writing utensil to collect data during the classroom observations to answer Research Questions 1. During the training phase of the study, each participant

received a copy of the training presentation handouts to answer Research Questions 1. During the modeling and rehearsal phase of the training, participants reviewed vignettes and identified the appropriate behavior management strategy that may be useful for the target problem behavior to answer Research Question 1.

Measures

The first dependent variable of this study, to be measured in answer to Research Question 1, was the teacher participants' implementation of the ABA strategies for positive and proactive classroom management practices and reduce problem behaviors as measured by Classroom Data Collection Tool. The independent variable is the implementation of the BST package that accounts for all BST components: instructions, modeling, rehearsal, and feedback (Parsons et al, 2013; Weston et al, 2020). To answer Research Questions 2, the participants' perception of the impact of BST was evaluated with the use of the Social Validity Survey.

Design

A multiple probe (MP) design across participants was used for this study. The MP design allowed the researcher to take non-continuous data during baseline and intervention, generalization, and follow-up phases of the study (Ledford & Gast, 2018). The MP design suits this type of study because it is often used in educational settings when three or more participants exhibit similar knowledge or deficits in skills that require intervention. It also meets the goal of educational research that often seeks to identify, improve, or evaluate instructional programs, strategies, and models that have been effective with several individuals or groups such as the BST package, and extended the generality and applications of findings to other participants (Ledford & Gast, 2018).

Moreover, the MP design was beneficial for this type of study because of its ability to achieve experimental control and demonstrate the intervention effects can be within and across participants.

In the study conducted by Briere et al. (2015), the authors used the multiple baseline (MB) design across newly certified teacher participants to evaluate the effects of a within-school consultation model on use of specific praise by newly certified teachers. The authors recruited three teacher-mentor dyads for this study and assessed a within-school consultative approach relative to the new teachers' rates of specific praise statements during teacher-directed instruction. Similarly, to the current study's proposed MP design, three conditions took place during the same segment of the teacher-delivered instruction in each teacher's classroom. The application of the MB design across participants and visual analysis of data patterns within and across conditions provided strong evidence of functional relation between the within-school consultation intervention and new teachers' rates of specific praise. Following the lead of Briere et al, the researcher hopes to demonstrate similar effects within the use of MP design across participants in the current study.

To be specific, multiple phases was inserted into the MP design. Phases of the MP design will include participant knowledge on related topics prior to training, knowledge as a result of training following a BST model, and generalization probes.

The MP design is more suitable than the reversal design because trained knowledge cannot be reversed; therefore, a withdrawal or reversal design cannot be used (Ledford & Gast, 2018). Within the MP design across participants is widely used and practical, it is not as technologically rigorous as the MP designs across behaviors or

conditions. This is because the MP design does not allow for intra-participant replication. There are several MP design limitations that may occur during the study: a) inconsistent effects of the intervention that may lead to loss of experimental control, b) difficulties of simultaneously measuring behaviors of various participants, c) ethical and experimental concerns relative to extended baseline conditions for participants in later tiers, and d) a potential risk of testing threats due to prolonged baseline conditions. To maintain control for behavioral covariations, observations occurred in separate classrooms within the research site. Moreover, the researcher controlled extraneous variables by using scripted training materials, discrete data collection tools, and classroom observation periods.

Procedures

Data Collection Procedures

1. The researcher sought approval from the university's Institutional Review Board (IRB).

2. After the IRB approval, the researcher began the participants' recruitment process.

3. Relying on the purposeful and convenience sampling techniques, the researcher worked with the school administrator(s) and followed their recommendations regarding the potential participant identification.

4. School administrator(s) were asked to identify three to five teachers who meet the inclusion criteria.

5. Each recommended and potential teacher participant was emailed an invitation to participate in this study as well as provided the Prequalifying Questionnaire.

6. If the potential participant chose to participate in the study, the appropriate consent was obtained as well as the answers to the Prequalifying Questionnaire.

7. Prior to the onset of the study, the researcher randomized participants to tiers and assigned them labels (e.g., Participant A, Participant B, etc.).

8. Prior to the onset of the study, the participant completed the Social Validity Survey.

9. Prior to the onset of the study, the researcher set the frequency of fidelity and reliability of data collections at a minimum of 25% for all sessions.

10. At the onset of the study, the researcher entered first-tier participant's (Participant A) classroom to observe and collect baseline data of this participant's ability to use the ABA techniques to reduce problem behavior or improve classroom culture and climate (Phase A). The observation termination criterion will be set at 20 min or 5 data points, whichever comes first. The Classroom Data Collection Tool was utilized for baseline data collection. The same approach will continue with the remaining participants assigned to subsequent tiers. The intervention start times will be staggered based on stability of baseline data.

11. During Phase B of the study, the first-tier participant took part in the BST provided by the researcher during which they learned about ABA techniques and strategies (Appendix F). Modeling of the prescribed practices, rehearsal opportunities to dissect behavioral vignettes and/or scenarios, and corrective feedback followed the instructional part of the training.

12. During Phase B, the first-tier participant was observed dissecting behavior vignettes and identifying the target behavior and invention techniques. The observation

termination criterion was set at 20 min or 5 data points, whichever came first. The Classroom Data Collection Tool was utilized for Phase B. The same approach continued with the remaining participants assigned to subsequent tiers. The intervention start times was staggered based on stability of baseline data.

13. After all participants completed Phase B, the researcher continued to conduct classroom observations using the Classroom Data Collection Tool (Phase C). The researcher entered the first-tier participant's (Participant A) classroom to observe and collect follow-up data of the participant's ability to use the ABA techniques to reduce problem behavior or improve classroom culture and climate. The observation termination criterion was set at 20 min or 5 data points, whichever came first. The same approach continued with the remaining participants assigned to subsequent tiers.

14. Each participant received corrective feedback at the end of each classroom observation session (Phase C).

15. After completion of Phases C, the researcher aggregated all collected data into tables, exported data to Excel spreadsheets, and translated the collected data into the line graphs for inspection.

16. Upon completion of Phase C, each participant completed the Social Validity Survey.

Internal Validity

While the goal of this research was to clearly demonstrate that the only variable that may influence changes in the dependent variable was the independent variable, BST, it is not always possible to control the impact of extraneous variables under all circumstances and conditions (Creswell & Guetterman, 2019; Ledford & Gast, 2018).

The MP design provides for adequate internal validity when all likely threats are controlled in a systemic and thoughtful manner. In addition, experimental control will also be ensured when adequate internal validity is present, behavior change is observed, and the intervention is introduced to each target tier for at least three tiers. One area that may be of concern to internal validity is maturation, which is associated with mental or physical changes in the participant's performance and may influence judgment and results (Creswell & Guetterman, 2019; Ledford & Gast, 2018) In order to control for this threat to internal validity, the researcher will reduce the assessment time to 20 min or 5 data points in hopes that it will eliminate potential risk of prolonged baseline or intervention conditions for any given participant. Testing effects is another threat to interval validity within the MP design. It accounts for the participant's ability to respond accurately to the intervention as a result of repeated exposure to testing (Ledford & Gast, 2018). The researcher will record anecdotal notes and provide correcting prompting after each observation period to control this potential threat.

Moreover, attrition, which is unforeseen, withdrawal of a participant from the study, is a major concern to any single-subject research study since that the number of participants is limited (Ledford & Gast, 2018). Therefore, the researcher will include a minimum of three participants and no more than 5 participants to measure overall effects of the intervention. Inconsistent effects are also likely when knowledge and skills of each participant vary drastically (Ledford & Gast, 2018). Knowledge of these threats to internal validity will assist with careful preparation, control, and execution of the experimental variables to the extent that they will determine the level of confidence that the researcher should have in the findings.

Procedural Fidelity

To measure whether all experimental conditions are followed as intended, procedural fidelity measure was implemented (Ledford & Gast, 2018). It is a necessary component of the single-subject research to identify procedural errors and control threats to internal and external validity. For example, the BST data will provide important information relative to feasibility and replicability of experimental procedures. As such, the fidelity of the training that includes live feedback was necessary and practical. It also ensured that experiences, training, and demographic characteristics of potential participants can be replicated. Procedural fidelity involves the use of a custom-made fidelity checklist to ensure adherence to the study's treatment protocol (Cooper et al., 2020). The researcher created a fidelity checklist to ensure that procedures are followed with fidelity (Appendix C). During classroom observations, the procedural fidelity checklist accounted for the same day feedback, the beginning and end time of the sessions, and corrective prompting during the sessions, etc.

Reliability of Measurement

The researcher collected the interobserver agreement (IOA) data throughout the baseline, intervention, and follow-up phases of the study. Reliability data was taken on the participants' practical implementation of 15 ABA strategies in the classroom. The researcher and a trained observer recorded the overall use of ABA strategies as outlined on the IOA data collection sheet (Appendix D). The data was collected on a minimum of 25% of sessions across each phase of the study. Total count IOA data was used for this study. Total count IOA was calculated by taking the smaller of the two recorded counts by each observer and dividing it by the larger of the two recorded counts and multiplying

by 100 (Cooper et al., 2020). The collected IOA data was represented visually and evaluated. In addition, the IOA data was reported as an average for each phase of the study.

Data Analysis Procedures

Visual analysis was used as the data analysis method to establish whether the independent variable produced acceptable effects on the dependent variable (Ledford & Gast, 2018). The visual analysis provided answers to Research Questions 1. Trend, variability, and level was examined for each participant across the observation environments (Cooper et al., 2020). Each graph displayed the number of sessions on x-axis and the measure of dependent variable on the y-axis. The level and data variability were reviewed periodically across phases and participants. Descriptive statistics was utilized to determine if an overall change in percent correct on the implementation of strategies occurred when comparing the participants' scores between baseline and intervention phases, and intervention and generalization. Statistical analysis will be performed using Microsoft Excel.

Analysis of the Social Validity Survey data was used to answer Research Questions 2. The researcher calculated the global score as described in the Instrument's section of this chapter. The difference of the global scores between the pre-and-post survey results were evaluated for each participant. In addition, all survey questions were evaluated individually across all participants. Descriptive statistics were used to indicate general tendencies in the social validity data. A percentile rank was used to determine where in a distribution of scores the individual participant's score may lie in comparison to the other scores. As a way to check the difference of each participant's score, the

researcher also calculated the pre and posttest survey scores of each participant out of 12 points.

Chapter 4: Results

Introduction

This study evaluated the impact of BST on the novice teachers' practical implementation of the ABA strategies in the classroom setting. Participants were trained individually in a staggered manner. The researcher collected data that accounted for the participants' use of general praise, error correction, opportunities to respond (OTR), and student disruptive behaviors. According to the BST model, participants were exposed to didactive instruction, modeling, and rehearsal of the ABA techniques, and targeted feedback. Participants' implementation of the newly learned ABA strategies was also observed in the classroom settings, which was followed by immediate corrective feedback. The research study addressed the following research questions:

1. Does the use of BST affect the novice teacher's practical implementation of ABA strategies as measured by the Classroom Data Collection Tool?
2. What do novice teachers perceive as the impact of BST as measured by the social validity survey?

Demographic Characteristics

One male and two female teachers participated in this study. All three participants were 22–32 years old. Two participants held a Georgia temporary teaching certificate. Participant C was fully certified in Grades 4–8 in mathematics and science education and possessed a master's degree. Participants B and C completed a bachelor's degree. Participant B and C were in their first year of teaching, while Participant A was in her second year of teaching. All participants were general education teachers. Two teacher participants were connection's teachers, and the other teacher participant was a

sixth grade English Language Arts teacher.

Data Analysis

The researcher used visual analysis and descriptive statistics to analyze the collected data. To determine if there was a significant difference in the implementation of the ABA practical skill acquisition across participants and phases with the use of BST, the researcher created a line graph that reveals each participant's frequency of use of four target behaviors. In addition, the researcher compared the pre and post assessment data that were collected with the use of a social validity survey.

Research Question 1

The first research question of the study explored the BST model's effect on novice teacher's implementation of the ABA strategies as measured by the Classroom Data Collection Tool (CDCT). The researcher observed each participant separately and recorded the previously identified target behaviors using the CDCT (Appendix B). The researcher aimed at determining the effective use of newly learned strategies to reduce the observed classroom behaviors by measuring the frequency of praise, frequency of error correction, and frequency of OTR all provided by the teacher participants. The researcher also measured the frequency of problem student behaviors.

Figure 1 displays the frequency of praise provided by teacher participants across three phases: baseline, intervention, and follow-up. Participant 1 used praise once throughout the entire study during which the participant acknowledged a student for appropriate student academic and social behavior. Participant 2 engaged in three instances of the use of praise throughout five observation sessions during baseline and did not provide any praise during the intervention and follow-up phases. Participant 3's

use of praise data varied across all phases (range=0–7 instances). Visual analysis of the line graph supports data variability across all phases for Participant 3, while Participant 1 and 2's data are stable and trending at zero celeration. The latter is indicative of complete lack of the component's implementation across the intervention and follow-up phases. Participant 3's data path demonstrates accelerating trend across all phases with high variability at the medium level (range = 3–6 instances) during the follow-up phase.

***Figure* 1**

General Praise Across Participants

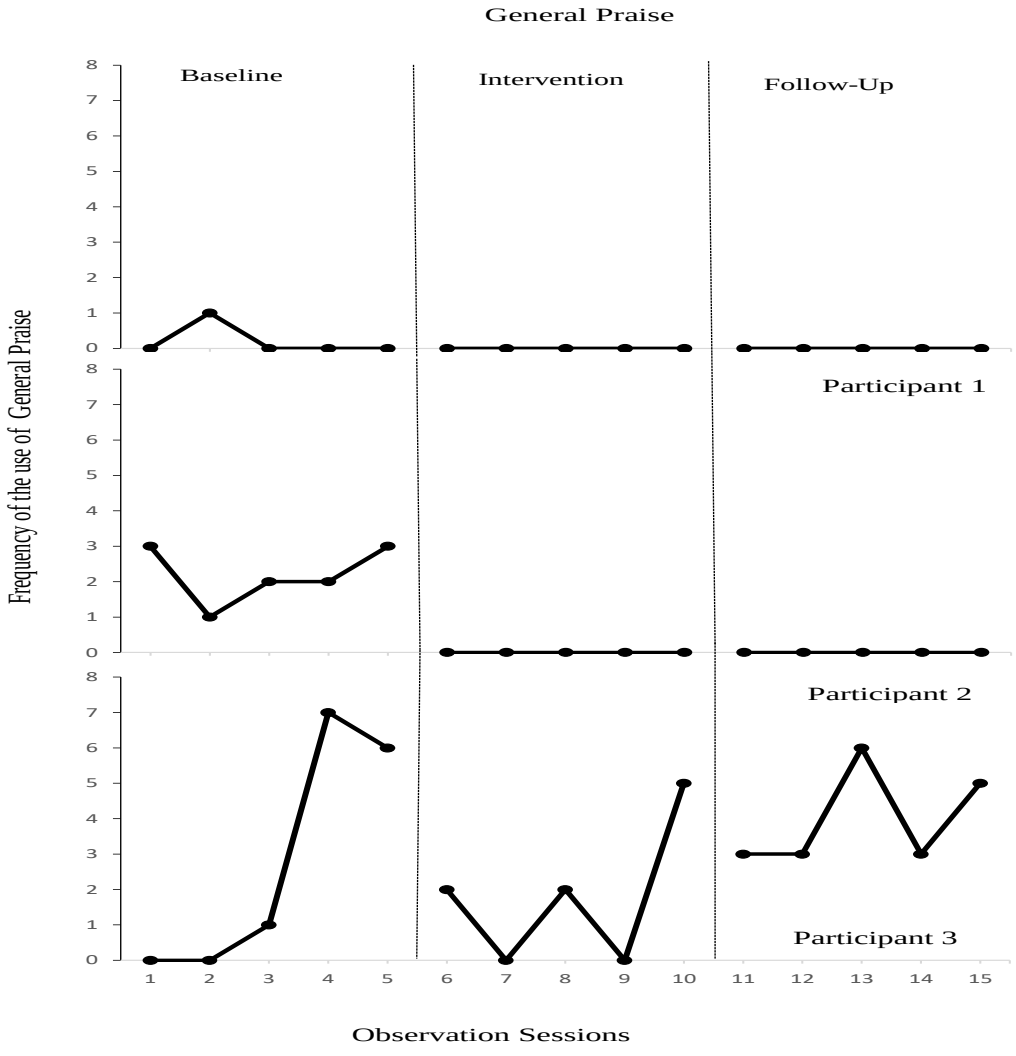


Figure 2 demonstrates the frequency of error correction provided by the teacher participants across the baseline, intervention, and follow up phases. Participant 1 provided error correction throughout all phases. During the baseline phase, Participant 1's data show an overall accelerating trend with high data variability whereby the last three data points are at the low level (range =0–3 instances). During the intervention phase, Participant 1's data path experiences sharp deceleration which precedes with high data variability at the low-medium level (range = 0–4 instances). A stable data path with five instances of error correction during the first three sessions are indicative of the Participant 1's maintenance of skill during the follow-up phase. In comparison to Participant 1's performance, Participant 2's data demonstrates an overall decelerating trend with high data variability at the low-medium level (range = 0–4 instances) in the baseline phase. In the intervention and follow-up phases, Participant 2's data revealed gradual deceleration trend with low data variability at the low level (range =0–3 instances). Participant 3's data varied across all phases. Data show steep accelerating trend during baseline, which drops to zero celebration in the intervention phase, and then transforms into gradual accelerating trend during the follow-up phase. In the intervention and follow-phases, the data path demonstrates high data variability at the medium level (range = 1–4 instances).

***Figure* 2**

Error Correction Across Participants

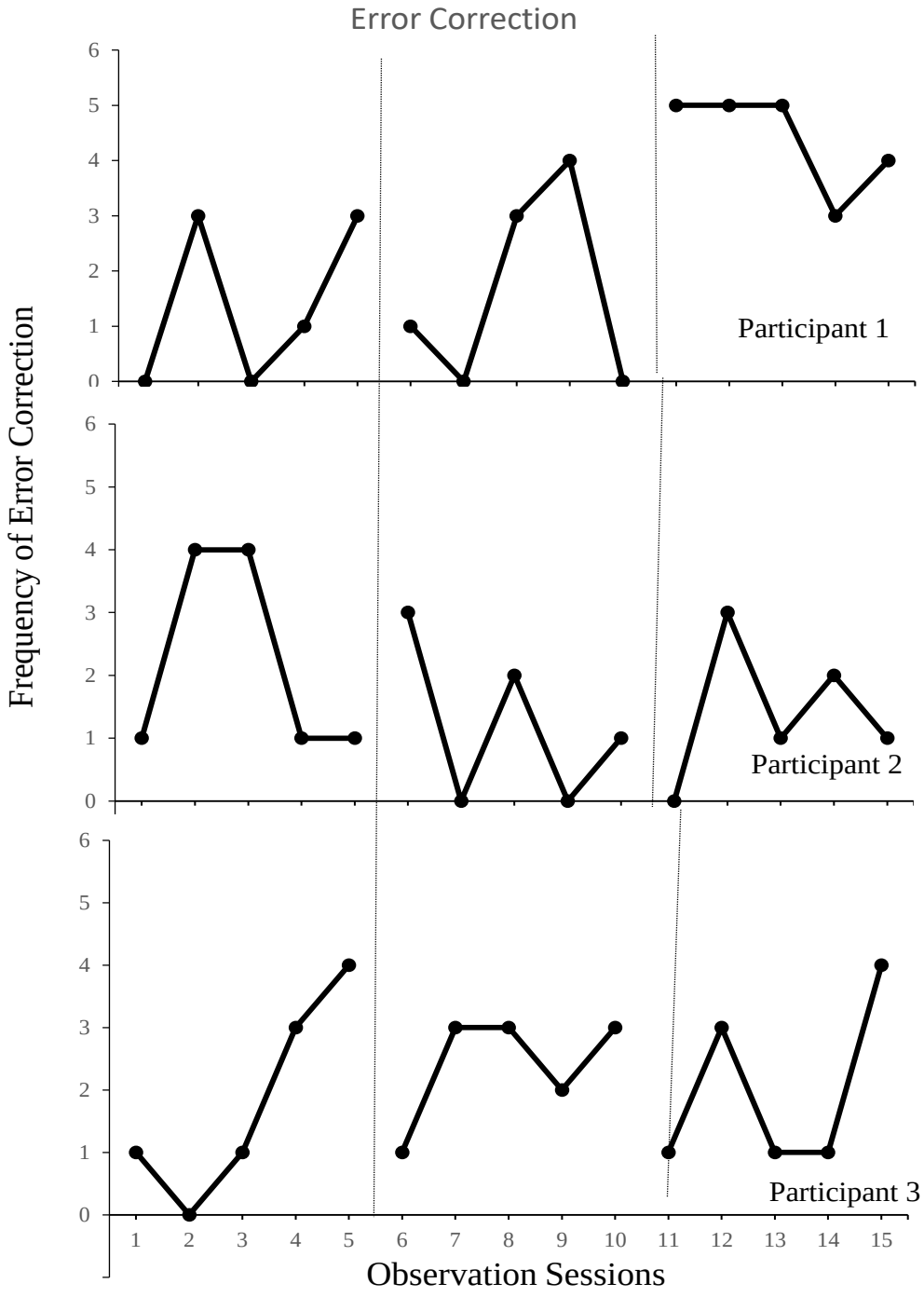


Figure 3 displays the participants' frequency of OTR across baseline, intervention, and follow-up phases. Participant 1's data path shows zero celeration across the baseline and intervention phases, which are indicative of complete lack of behavior. During the follow-up phase, Participant 1 provided five OTR over three first observation sessions which dropped to zero level during the last two observation sessions. Participant 2 demonstrated a low data variability at the low level (range = 1–3 instances) during baseline phase. In comparison to Participant 1, Participant 2 demonstrated zero celebration across the intervention and follow-up phases. Participant 3's data path revealed sharp accelerating trend with a quick deceleration dip during the last session of the baseline phase. In the intervention and follow-up phases, Participant 3's data demonstrated accelerating trend with high data variability at the low-medium level (range = 0–5 instances) in the intervention phase and at the medium level (range = 3–6 instances) in the follow-up phase.

***Figure* 3**

Opportunity to Respond Across Participants

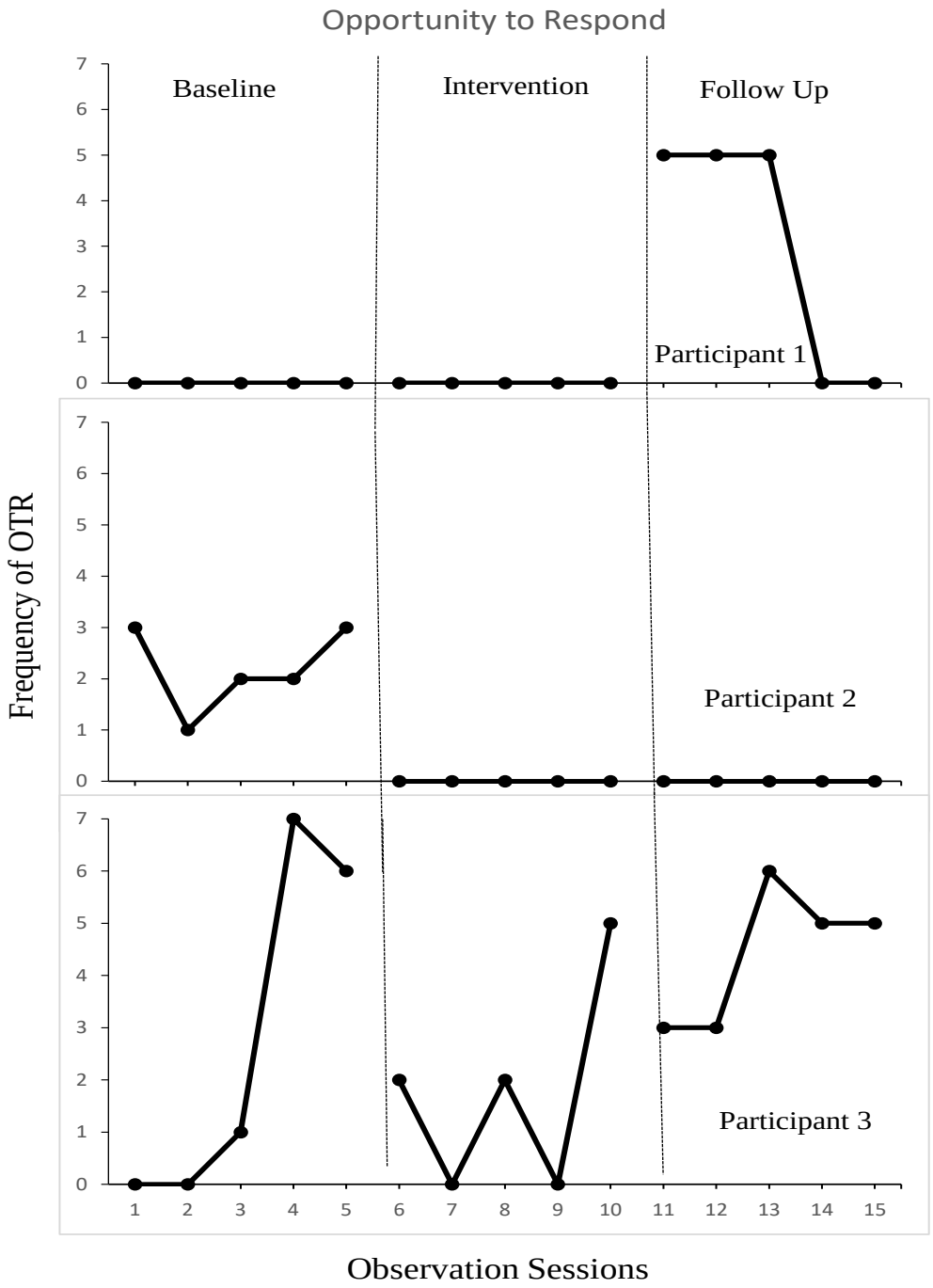
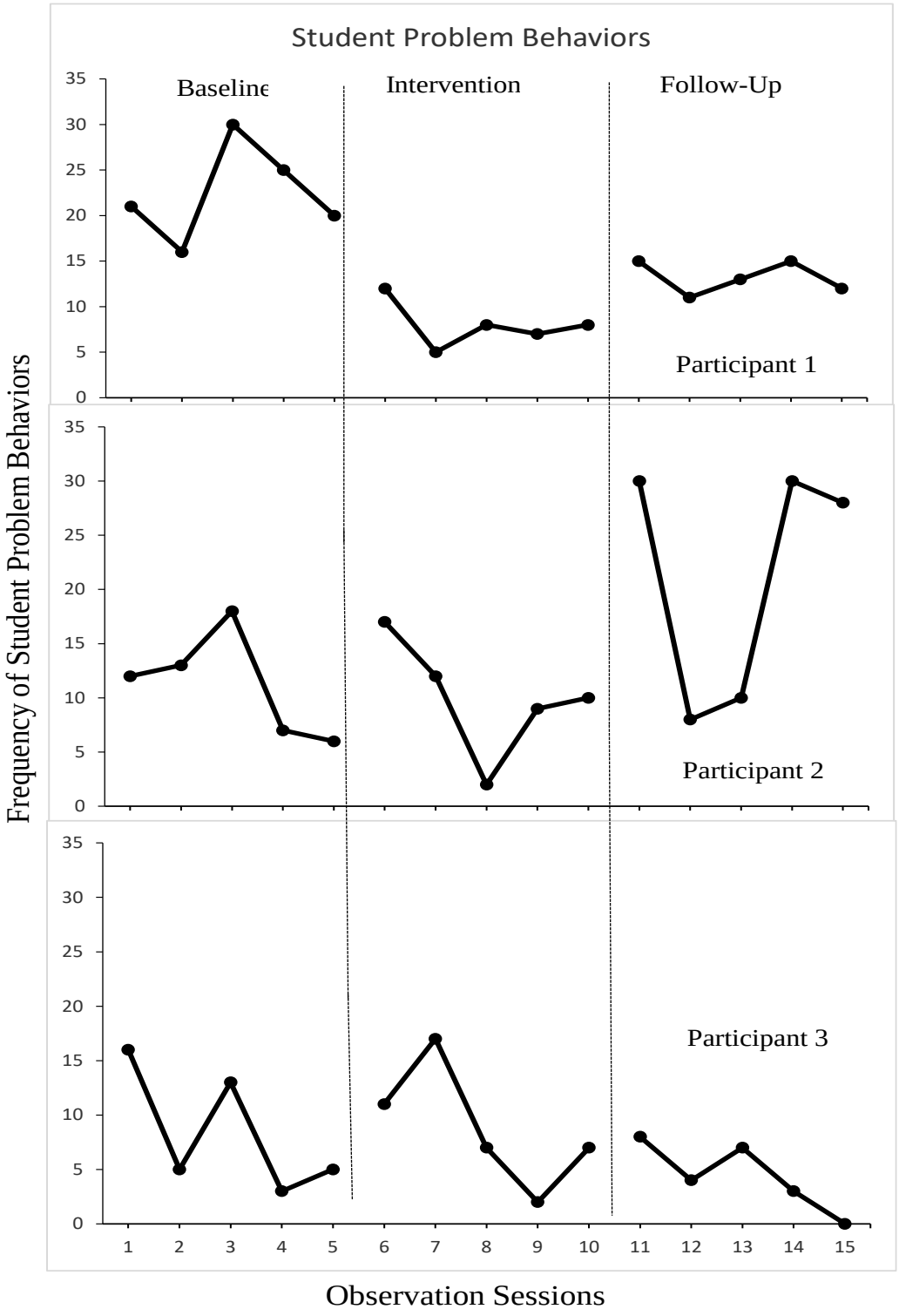


Figure 4 displays the frequency of problem behaviors of students in each teacher participant's classroom across the baseline, intervention, and follow-up phases. In the baseline phase, Participant 1's data path demonstrated decelerating trend with high data variability at the high level (range =15–30 instances). While Participant 1's data path shows almost zero celebration during the intervention and follow-up phases, there is also a low data variability and drastic data path change to the low level (range = 5–10 instances) in the intervention phase and to the medium level (range = 10–15 instances) in the follow-up phase. In comparison to Participant 1, Participant 2's data path is highly variable with display of decelerating trend across all phases. Participant 2's data levels are at the medium level (range = 5–20 instances) in the baseline phase, and medium-high level (range =7–30 instances) in the follow-up phase. These data paths indicate that the participant did not maintain the newly acquired practical skills although showed some understanding of the concepts by achieving a reduced amount of student problem behaviors during the intervention phase. Participant 3's data path has been variable throughout all phases. However, there is clear evidence of decelerating trend at the low levels across phases. In comparison to Participant 1 and 2. Participant 3's data path are at the low-medium levels (range = 2–15 instances) in the baseline and intervention phases and at the low level (range = 0–6 instances) in the follow-up phase. The researcher noted that the participant inquired about her acquisition of newly learned skills and achieved a remarkable zero level of occurrences of student problem behaviors in the classroom during the last observation session.

***Figure* 4**

Student Problem Behaviors Across Participants



The researcher calculated the percentage of non-overlapping data (PND). The PND was calculated by counting the range of data points in the baseline and then the data points in the intervention and follow-up phases that fell outside of the range (Ledford & Gast, 2018). The researcher calculated PND to confirm that the changes in level indeed resulted from the intervention. The lesser the number of data points that overlap, the more plausible is that the intervention was responsible for projected results (Ledford & Gast, 2018).

Participant 1's PND value is 100% in both the intervention and follow-up phases. It indicates that there is a chance that the intervention was responsible for any positive knowledge and skill gains across phases. While Participant 2's PND is also at 100% in the intervention phases, it drops to 40% in the follow-up phase. Participant 3's PND has the lowest value of 20% in both intervention and follow-up phases. However, Participant 3's frequency of student problem behaviors was lower than frequency of student problem behaviors of the other two participants across phases.

In addition to visual analysis of the line graph, the researcher evaluated the average frequency of the target behaviors across phases and participants. Relying on the data presented in Tables 1–3, Participant 3's data are worth attention because Participant 3's use of praise increased from the average 3 instances during the intervention phase to the average 4 instances during the follow-up phase.

Table 1

Mean and Standard Deviation for Frequency of Praise-Baseline

Phase-Baseline	Mean	Std. Deviation
P1	0	0.4
P2	2	0.8
P3	3	3.4

Table 2

Mean and Standard Deviation for Frequency of Praise-Intervention

Phase-Intervention	Mean	Std. Deviation
P1	0	0
P2	0	0
P3	2	2.3

Table 3

Mean and Standard Deviation for Frequency of Praise-Follow Up

Phase-Follow Up	Mean	Std. Deviation
P1	0	0
P2	0	0
P3	4	1.5

Tables 4, 5, and 6 display the results of the average frequency of error correction among participants across phases. Participant 1's average number of error correction increased from zero instances in the baseline and intervention phases to four instances in the follow-up phase. Participant 2's average number of error correction decreased from three instances during the baseline phase to one instance during the intervention phase and two instances during the follow-up phase. Participant 3's average number of error correction increased from two instances in the baseline phase to three instances in the intervention phase, and then it reverted back to two instances in the follow-up phase.

Table 4

Mean and Standard Deviation for Frequency of Error Correction-Baseline

Phase-Baseline	Mean	Std. Deviation
P1	2	1.5
P2	2	1.7
P3	2	1.8

Table 5

Mean and Standard Deviation for Frequency of Error Correction-Intervention

Phase-Intervention	Mean	Std. Deviation
P1	2	2.1
P2	1	0.9
P3	3	0.5

Table 6

Mean and Standard Deviation for Frequency of Error Correction-Follow Up

Phase-Follow Up	Mean	Std. Deviation
P1	4	0.9
P2	1	0.9
P3	2	1.5

Next, Table 7, 8, and 9 display the results of the average frequency of use of OTR. Participant 1's average frequency of OTR use increased from zero instance in the baseline and intervention phases to three instances during the follow-up phase. Participant 2's average number of OTR use decreased from two instances during the baseline phase to zero instance in the intervention and follow-up phases. Participant 3's average number of OTR use increased from four instances in the baseline phase to five instances in the follow-up phase, two instances in the intervention phase.

Table 7

Mean and Standard Deviation for Frequency of OTR-Baseline

Phase-Baseline	Mean	Std. Deviation
P1	0	0
P2	2	0.8
P3	4	3.5

Table 8

Mean and Standard Deviation for Frequency of OTR-Intervention

Phase-Intervention	Mean	Std. Deviation
P1	0	0
P2	0	0
P3	2	2.3

Table 9

Mean and Standard Deviation for Frequency of OTR-Follow Up

Phase-Follow Up	Mean	Std. Deviation
P1	3	2.8
P2	0	0
P3	5	3.5

Tables 10, 11, and 12 display the results of the average frequency of problem behaviors of students who were in the teacher participant's classroom. Participant 1's average number of student problem behaviors decreased from 23 instances in the baseline phase to 7 instances in the intervention phase and then increased to 13 instances during the follow-up phase. Participant 2's averages number of student problem behaviors decreased to 11 instances in the follow-up phase. Participant 3's average number of student problem behaviors increased from seven instances in the baseline phase to eight

instances in the intervention phase. It decreased to four instances during the follow-up phase.

Table 10

Mean and Standard Deviation for Frequency of Student Behaviors-Baseline

Phase-Baseline	Mean	Std. Deviation
P1	23	6.1
P2	11	5.5
P3	7	4.4

Table 11

Mean and Standard Deviation for Frequency of Student Behaviors-Intervention

Phase-Intervention	Mean	Std. Deviation
P1	7	1.4
P2	8	4.3
P3	8	6.2

Table 12

Mean and Standard Deviation for Frequency of Student Behaviors-Follow Up

Phase-Follow Up	Mean	Std. Deviation
P1	13	1.7
P2	19	11.6
P3	4	2.8

Treatment fidelity was scored at 100% across all participants, but there were additional barriers that could have possibly contributed to the outcome. The interobserver

agreement (IOA) data were collected during 25% of the sessions across the baseline, intervention, and follow-up phases of the study. Total count IOA is calculated by taking the smaller of the two recorded counts by each observer and dividing it by the larger of the two recorded counts and multiplying by 100 (Cooper et al., 2020). Ledford and Gast (2018) indicated that having an agreement of 80% of higher is ideal. The IOA collected for this study are in acceptable range within the baseline and follow-up phases of the study. However, the intervention phase has an average score of 75% which falls below the acceptable range.

Table 13

Interobserver Agreement Across Participants and Phases

Phase	P1	P2	P3	Average
Baseline	65	80	100	81
Intervention	80	85	60	75
Follow-Up	90	75	81	82

Research Question 2

The second research question of this study evaluated the novice teacher's perceived impact of BST as measured by the social validity survey. Analysis of the pretest data revealed that Participant 1 and 3 perceived themselves as being able to understand and discuss the ABA terminology, concepts, principles, and issues related to the target skills, but were not prepared to apply knowledge in the classroom setting across all four skills that were assessed by the survey. Upon completion of the training, the

posttest data demonstrated that Participants 1 and 3 were capable of applying all four skills to the classroom situations occasionally and with minimum guidance to perform them successfully. In contrast to the two participants, Participant 2 stated that they were able to understand and discuss the terminology, concepts, principles, and issues related to the skills, but could not apply the skills to the classroom situation for the skills 1 and 3 on the pre and posttest. Upon completion of the training, Participant 2 perceived their ability to apply the skills to the classroom situations occasionally and with minimum guidance for the skills 2 and 4.

The results of the pre and posttest data indicate that there was an overall perceived slight increase in application and performance of every skill across all three participants. Relying on the social validity survey's scoring rubric, the participants could earn a maximum of 12 points which were equivalent to 100%. The researcher calculated a global score of each participant on the pre and posttest measures. For Participants 1 and 3, the global score went from 1 point during pretest to 2 points during posttest. The global score for Participant 2 remained the same (6 points) across pre and posttest assessment.

Chapter 5: Discussion

Introduction

Many schools around the world have noted an increase in maladaptive problem behaviors in students over the last 5 years and especially after the onset of the coronavirus pandemic (Hanimoglu, 2018; Spadafora et al., 2022). Spadafora et al. (2022) went as far as introducing the term "classroom incivility" (p. 565). The term refers to a mild display of disrespectful and argumentative behaviors among students. While these behaviors may be insignificant on a sizeable scale of maladaptive behaviors, they contribute to teacher responsiveness, problem escalation, and loss of instructional time (Spadafora et al., 2022).

Two research questions were developed based on the gaps identified in the existing literature related to novice teacher training on behavior management strategies and skills. The primary focus of the study was to determine whether teachers could apply the newly trained ABA principles and techniques to the classroom setting and reduce the amount of the student problem behaviors. To evaluate the teacher participants' ability to use the ABA techniques to redirect or reduce student problem behavior, the researcher collected and analyzed the baseline, intervention, and follow-up data. Relying on the BST model, teacher participants' training included didactic instruction, modeling, opportunities for rehearsal and corrective feedback. The novice teacher participants were evaluated on their ability to apply newly learned skills and use appropriate behavior strategies in the classroom environment.

Summary of Findings

Results of the study are mixed with no clear indication of a hypothesized increase

in application of the target skills across participants. Participant 1 and 3 somewhat increased their ability to apply the ABA strategies to improve the classroom environment and reduce student problem behaviors. Initial baseline data varied in frequency of praise, error correction, and OTR. However, the baseline data of frequency of student problem behaviors indicated that all teacher participants did not have the competency to redirect problem behaviors. There was an influx in student problem behaviors in the participants' class including but not limited to students leaving classroom without permission, refusing to complete assignments, using cell phone, profanity, and other off-task behaviors. Participant 1's frequency of praise was at a zero celeration trend throughout all phases of the study, and the frequency of error correction indicated variability throughout all phases. The frequency of OTR was also at zero celeration trend throughout the baseline and intervention phases of the study. Frequency of student problem behaviors sometimes decreased during the intervention and follow-up phases. It is important to note that Participant 1 did not use the newly acquired ABA strategies with fidelity. The participant engaged in the implementation of strategies only when they were observed. Like Participant 1, Participant 2's data varied throughout the study and the number of student problem behaviors increased from eight instances during the baseline and intervention phases to 19 instances during the follow-up phase. Participant 2 demonstrated an overall lack of pedagogical preparations throughout the workdays. Participant 3's data demonstrated an accelerating trend across all phases during the frequency of praise use with high variability at the medium level during the follow-up phase. During the use of frequency of error correction, Participant 3's data varied across all phases and showed a steep accelerating trend during baseline that dropped to zero celeration in the intervention

phase, and a gradual accelerating trend in the follow-up phase. Frequency of OTR revealed an overall acceleration trend with high variability in both the intervention and follow-up phases. Also, frequency of student behavior varied throughout all phases, but there was a clear indication of a decelerating trend at the low levels across all phases.

Moreover, the researcher noted changes in Participant 3's application of skills in the classroom environment throughout each phase of the study. The participant consistently sought performance feedback. Based on the observations, two of the participants were not responsive to inappropriate behaviors and reinforced the behaviors in their classrooms.

Data analysis across the participants during the intervention and follow-up phases of the study revealed tremendous performance fluctuations and even lack of improvement in some instances. This indicates a weakened experimental control as a hypothesized pattern of behavior was not achieved in this study (Cooper et al., 2020). Due to time constraints, the researcher collected 5 data points for each phase of the study. While collection of additional data points could be desired, the probability of improvement across participants is unlikely.

While the instances of student problem behaviors decreased for Participants 1 and 3 during the intervention and follow-up phases, they drastically increased for Participant 2. Moreover, Participant 2's perception of skill acquisition as measured by the social validity survey remained the same between the pre and posttest assessments. Based on the visual analysis of data of all participants across the target behaviors, the participants' performance was not consistent between the intervention and follow-up phases. The frequency of error correction included between one to six instances. Also, during the

follow-up phase, scores ranged from zero to 30 frequency of problem behaviors across participants. The frequency of OTR use varied from zero to five instances, but in the follow-up phase, it varied from zero to six instances. The frequency of praise use also varied from zero to six instances in the intervention phase and from zero to seven instances in the follow-up phase.

Interpretation of Findings

Overall, the use of a BST model for training the ABA strategies in the classroom was not fully validated through this study because only some participants demonstrated application of the target skills and behavior management concepts in the natural environment. Although there was variability in the data points during the intervention and follow-up phases of the study, Participants 1 and 3 demonstrated the practical skill acquisition because the frequency of student problem behaviors went down in their respective classrooms. The data variability is indicative of a potential lack of experimental control or research design issue (Ledford & Gast, 2018). It is hypothesized that the data variability across the participants and phases occurred due to various external events that will be discussed in the limitation section. In addition to the data variability, there were instances of unanticipated zero celeration trend in the baseline, intervention, and follow-up phases. Although the instances of contra-therapeutic trend that occurred in baseline phase provided evidence that immediate intervention was needed, the researcher did not continue collecting data until stability was established.

Prior to the onset of the study, all participants were given a demographic questionnaire to gauge their years of teaching experience, educational backgrounds, and training in ABA. Although educators received academic and practical training in

classroom management, behavior management strategies that are grounded in the science of ABA were not directly taught. All teachers who participated in this study had less than 3 years of experience managing a general education classroom. The latter may have contributed to the data variability and zero celeration trend during several phases of the study.

Overall, the BST training model was an effective training methodology to train the principles and application of ABA strategies for classroom management. Two out of the three teacher participants increased their practical skills and achieved a modest reduction in student problem behaviors in their respective classrooms. Each participant received a one-on-one multi-component training via the use of BST that allowed for universal design for learning and accommodated the principles of adult learning to include experience, mentorships, motivation, and readiness to learn. While BST offered an opportunity for participants to ask questions and also practice independently, lack of experience, motivation, and readiness to learn might have contributed to the mixed results of the study.

The researcher carefully planned for systematic training for the teacher participants as well as systematic procedures for use during the baselines, intervention, follow-up phases. As such, the researcher achieved 100% procedural fidelity. While the training data provided important information relative to feasibility and replicability of experimental procedures, the fidelity of the BST's components (e.g., didactive training, modeling, rehearsal, and feedback) could have benefited from a distinct measure and reporting as implementation fidelity to explain the inconsistency of the results.

Context of Findings

BST is an effective model for professional training in the educational and applied settings (Balmer, 2022; Davenport et al., 2019; Klaft & Codding, 2021; Kunnavatana et al., 2013; Lloveras et al., 2022; Wells et al., 2019). According to Klaft et al. (2021), the feedback component of the BST model is a crucial part of adult training that is often omitted. The feedback component helps learners and trainers interpret the application of newly acquired skills. Without feedback, learners and trainers rely on perceived knowledge that is collected via a social validity measure. Adult learners do not always like feedback as a result of the training, but they appreciate knowing how they do in the training context or in comparison to other learners. This is evident in Participant 3's inquiries for corrective feedback, which allowed the participant to improve across all measures in the current study.

Balmer (2022) relied on the BST framework to develop a teacher training on functional assessment practices to include generalization to the classroom setting. Results of the current study do not fully align with Balmer's (2022) study although they support the overall demonstration of the BST's effectiveness in training educators. Balmer's study highlighted functional and practical aspects of the BST model which is well designed to alleviate the environmental and time constraints that are often associated with training of educators in the classroom setting. While the current study did not mitigate all environmental constraints associated with the research site, it attempted to follow Balmer's lead in replicating treatment fidelity and generalization of skills to the natural environment.

Barton (2015) evaluated the relation between preschool teachers' use of the

system of least prompts and acquisition, maintenance, and generalization of pretend play and related behaviors among children with disabilities. Like the current study, Barton used direct observation to record teachers' implementation of the newly taught intervention procedures and reported implementation fidelity of the didactic teacher training with feedback before, during, and after intervention sessions. Although Barton as well as the current researcher reported that the teacher participants implemented the newly learned skills with fidelity, they did not provide information relative to the teacher participants' behaviors during probe conditions. While it is important to demonstrate the protocol's adherence data, participants' differentiation with probe conditions could be of help to increase confidence in functional relations and reduce risk of bias.

Results of the current study might have been improved with additional opportunities to practice the ABA strategies. A descending trend in frequency of student problem behaviors among two participants indicates that teachers can benefit from practice and feedback exclusively. BST is well designed to accommodate repeated practice opportunities with corrective feedback (Cooper et al., 2020). Lloveras et al. (2021) used an online BST for training participants in functional behavior assessment. While participants were trained in a group, the researcher engaged the participants in role playing opportunities to learn the common functions of behavior. In contrast to the Lloveras et al.'s study, the present study required participants to not only determine function of behavior without the formal functional assessment training, but also functionally respond to the observed behavior by using various ABA strategies. The latter requires a strong knowledge foundation and multiple opportunities for practice that were absent due to the time constraints. Results of both research studies imply that the BST

model must incorporate functional assessment practices and intervention implementation strategies in a longitudinal fashion with an increased opportunity for frequent practice and corrective feedback.

Implications of Findings

Although the initial findings of this study are inconclusive, educators can be successfully trained in the use of ABA strategies to reduce problem behaviors in the classroom (Balmer, 2022; Davenport et al., 2019; Klaft & Codding, 2021; Kunnavatana et al., 2013; Lloveras et al., 2022; Wells et al., 2019). Skinner and Hales (1992) were the first authors who noted deficiencies in educators' acquisition and application of behavior management skills to ensure positive student learning and behavioral outcomes. Melnick and Meister (2008) compared the knowledge and skillset between novice teachers and veteran teachers. In contrast to Melnick and Meister's study, the present study revealed that with the use of a targeted training such as the BST model and experimental control, novice teachers can benefit from practical knowledge of the ABA strategies in the classroom setting. The present study indicates the importance of utilizing a scripted training model for educators with numerous opportunities for practice (Hogan et al, 2015; Kilpatrick et al., 2019).

Dillard (2016) also discussed the importance of preservice training for novice teachers in professional learning communities. The training allowed novice teachers to acquire skills and work together with their peers. In contrast to the Dillard's study, the present study did not provide the novice teachers with a peer-supported learning environment that contributes to a sense of a professional learning community. The latter is a noteworthy adult learning component of a professional training in the educational

setting wherein professionals usually work in groups in a collegial manner.

Moreover, Flower et al.'s (2017) study discussed the importance of appropriate integration of learning of the classroom behavior management strategies into the preservice teacher systemic preparation. The current study examined the practical application of the ABA-grounded behavior management strategies to increase the novice teacher behavior management skills and reduce student problem behaviors. While the current study did not fully demonstrate the application of skills among all participants, it truly revealed the need for a carefully planned BST that accounts for the needs of adult learners, context of learning, and environmental variables. Gardwood and Van Loan's (2019) study results support the above and stress the need for novice teachers' behavior management education because of the recent increase in challenging behaviors of students with emotional and behavior disorders.

The researcher strongly recommends accounting for the adult learning styles when structuring the targeted training for novice teachers. Finn (2011) provided an overview of characteristics of adults who participated in an English language training program. Finn demonstrated that adults are motivated to learn and invested in the training when there is a perceived career or job-related opportunity. There are three types of adult learners: goal-oriented learners, activity-oriented learners, or learning-oriented learners. For example with goal-oriented learners, individuals have specific goals that account for desired outcomes to be achieved at the end of learning. In addition to understanding the adult learning styles, Finn also noted the importance of motivation for leaning. If individuals do not experience immediate success, their motivation usually decreases. Adult-learning educational approaches should incorporate strategies that are based on the

relevant life experiences, social roles, problem-centered tactics, internal motivation, and logical explanation that addresses the importance of learning.

Roumell (2019) discussed the importance of priming adult learners for learning transfer. Roumell (2019) determined that many training programs focus on a skill's development and application of learned skills without an immediate opportunity for the skills to be applied in a real-world context. Roumell's recommendation aligns with the researcher's suggestion: While educators have the opportunity to practice skills, they may need frequent practice opportunities and additional time to be able to use skills with confidence and consistency.

Limitations of the Study

According to Cooper et al. (2020) and Ledford and Gast (2018), progression to subsequent phases of the study should not occur until steady state responding is achieved in a multiple baseline and multiple probe designs. The current study did not consider the participant's responding when making determinations of when to progress to the next phase to avoid unstable data. While there is not a prescribed rule as to when to progress from phase to phase in a study, researchers should consider participant performance, environmental conditions, and all potential threats to internal validity when attempting to record data.

The current study employed a multiple probe design across participants. Each participant had 5 recorded baseline data points without regard for baseline logic. Baseline logic shows a steady state of responding that should be achieved prior to progression to the next phase of the study (Cooper et. al., 2020). Moreover, participants should not have been able to progress to the next phase if their performance was not trending in the

intended direction or is highly variable. While there were 5 recorded data points, there should have been more data points collected across all phases of the study. The researcher had limited time allocated to data collection which might have affected the outcomes of the study.

One critical characteristic of a single-subject research is sufficiency of data for determining a functional relation. While inclusion of 3 to 5 data points is a minimum criterion that has been addressed by Ledford and Gast (2018), the authors also recommended considering whether behavior change occurred due to changes between conditions. Because the researcher of the current study is not certain that the teacher participants' skill implementation was directly related to the training, the study does not have adequate internal validity. To increase certainty and reduce data variability, the researcher could have benefited from recording more than 5 data points per each phase.

The most concerning threat for a multiple probe design across participants is inconsistent effects. Ledford and Gast (2018) attributed inconsistent effects to lack of information about what specific variables may relate to response to intervention. Relying on this potential effect's logic, it is likely that novice teachers who are similar on several variables may respond to the training and apply the newly taught skills differently. According to the study conducted by Ledford et al. (2016), a review of social skills interventions for individuals with autism reported inconsistent success rate with the use of multiple probe designs across participants. When other designs are used in the study, inconsistent effects for different participants are usually informative in nature and do not necessarily affect experimental control for other participants. When experimental control is observed for some participants and not others, it is hypothesized that the intervention

worked for some participants. In the context of a multiple probe design across participants, absence of experimental control for some participants attributes to lack of control for all participants because behavior change for one or more participants may be related to history, maturation, testing, and other confounding variables. To minimize inconsistent effects, the researcher should have carefully selected participants with similar characteristics although the latter is difficult to achieve due to a limited pool of novice teachers in any given school.

There were several confounding variables that might have contributed to the study outcomes. The research site strictly adheres to the coronavirus' prevention measures that affect teaching and learning in the classroom setting. Moreover, the research site was recently affected by tornado that led to displacement of many residents to include students and their families. Finally, one of the participant's students passed away in the course of the study. This significant loss and its coping took priority and affected the entire community. It emotionally impacted the teacher participants and contributed to a decreased social and academic performance of students.

Future Research Directions

Educators can benefit from the targeted training that addresses the specific context and principles of adult learning. While the present study aimed at evaluating implementation of practical ABA skills to reduce problem behavior in the classroom setting, future studies should incorporate functional behavior assessment and direct assessment of basic ABA knowledge into the training as a prerequisite skill measure. To implement the ambitious training with fidelity, an extended BST model should be used over the course of at least 9 weeks. Moreover, to enhance certainty of the direct effect of

independent variable on dependent variable and reduce data variability, researchers may elect to record more than 5 data points per each phase.

Chakinka et al. (2016) determined that adult learners have characteristics that include sociological, psychological, and physiological needs. Future research should incorporate an adult learner's wants, needs, and motivation into the training model. In addition, adult learners learn the best from a mentor that shares their believes and values.

Finally, future research studies should engage the school leadership personnel in the training, modeling, rehearsal, feedback, or data collection components of the study. School leadership involvement highlights the importance of acquisition of ABA practices and skills, improves teacher compliance, reduces student problem behaviors, and potentially increases teacher motivation. Xia et al. (2022) evaluated the association between school leadership and team creative thinking performance to include mediating effects of creative self-efficacy, self-motivating, and practicing openness. Xia and colleagues' study showed that the leadership presence positively affected the school personnel's performance and self-efficacy. Active leadership involvement creates visible benefits, actions, and outcomes for the common good and benefits all through genuine participation in professional development and training opportunities.

References

Alperin, A., Reddy, L. A., Glover, T. A., Bronstein, B., Wiggs, N. B., & Dudek, C. M. (2021). School-based interventions for middle school students with disruptive behaviors: A systematic review of components and methodology. *Grantee Submission*, doi:https://doi.org/10.1080/2372966X.2021.1883996

Axelrod, S., Moyer, L., & Berry, B. (1990). Why teachers do not use behavior modification procedures. Journal of Educational and Psychological Consultation, 1(4), 309-320. doi:10.1207/s1532768xjepc0104_3

Baer, D.M., Wolf, M.M., & Risley, T. (1968). Current dimensions of applied behavior analysis. *Journal of Applied Behavior Analysis*, 1, 91-97.

Barton, E. E. (2015). Teaching generalized pretend play and related behaviors to young children with disabilities. *Exceptional Children*, *81*, 489–506.

Blair, K. A., Denham, S. A., Kochanoff, A., & Whipple, B. (2004). Playing it cool: Temperament, emotion regulation, and social behavior in preschoolers. *Journal of school psychology*, *42*(6), 419-443.

Blank, C., & Shavit, Y. (2016). The Association Between Student Reports of Classmates' Disruptive Behavior and Student Achievement. *AERA Open*. https://doi.org/10.1177/2332858416653921

Branch, A., Hastings, R. P., Beverley, M., & Hughes, J. C. (2018). Increasing support staff fluency with the content of behaviour support plans: An application of precision teaching. *Journal of Intellectual & Developmental Disability*, *43*(2), 213-222.

Briere, D.E.,Simonsen, B., Sugai, G., & Myers., D (2015). Increasing new teachers' specific praise using a within-school consultations intervention. *Journal of Positive Behavior Intervention*, 17, 50-60.

Chakanika, W. W., Sichula, N. K., & Sumbwa, P. I. (2019). The adult learning environment. *Journal of Adult Education (online ISSN 2664-5688)*, *1*(1), 14-21.

Chen, C.-W., & Ma, H.-H. (2007). Effects of treatment on disruptive behaviors: A quantitative synthesis of single-subject research using the PEM approach. *The Behavior Analyst Today, 8*(4), 380-397. http://dx.doi.org/10.1037/h0100629

Cooper, J.O., Heron, T.E., & Heward, W.L. (2020). *Applied Behavior Analysis* (3rd Edition). Pearson.

Cornell, D., Gregory, A., Huang, F., & Fan, X. (2013). Perceived prevalence of teasing and bullying predicts high school dropout rates. Journal of Educational Psychology, 105, 138-149. https://doi.org/10.1037/a0030416

Creswell, J.W., & Guetterman, T. C. (2018). Educational research: Planning, conducting, and evaluating quantitative and qualitative research (6th edition). Pearson.

Davenport, C., Alber-Morgan, S., & Konrad, M. (2019). Effects of behavioral skills training on teacher implementation of a reading racetrack intervention. Education and Treatment of Children, 42(3), 385-407. doi:10.1353/etc.2019.0018.

Debreli, E., Ishanova, I., & Sheppard, C. (2019). Foreign language classroom management: Types of student misbehaviour and strategies adapted by the teachers in handling disruptive behaviour. *Cogent Education*, *6*(1), 1–12. https://doi-org.ezproxylocal.library.nova.edu/10.1080/2331186X.2019.1648629

Dillard, H. K. (2016). Pre-Service Training in Professional Learning Communities Benefits Novice Teacher. *Transformative Dialogues: Teaching & Learning Journal*, *9*(2), 1–13.

Ervin, T., Wilson, A. N., Maynard, B. R., & Bramblett, T. (2018). Determining the effectiveness of behavior skills training and observational learning on classroom behaviors: A case study. *Social Work Research*, *42*(2), 106-117.

Estrapala, S., Rila, A., & Bruhn, A. L. (2021). A systematic review of tier 1 PBIS implementation in high schools. *Journal of Positive Behavior Interventions*, *23*(4), 288-302. doi:https://doi.org/10.1177/1098300720929684

Fantuzzo, J. W., Bulotsky-Shearer, R., Fusco, R. A., & McWayne, C. (2005). An investigation of preschool classroom behavioral adjustment problems and social-emotional school readiness competencies. *Early Childhood Research Quarterly*, *20*(3), 259-275. doi:https://doi-org.ezproxylocal.library.nova.edu/10.1016/j.ecresq.2005.07.001

Finn, D. (2011). Principles of adult learning: An ESL context. *Journal of Adult Education*, *40*(1), 34-39.

Flower, A., McKenna, J. W., & Haring, C. D. (2017). Behavior and classroom management: Are teacher preparation programs really preparing our teachers? *Preventing School Failure*, *61*(2), 163-169. doi:https://doi.org/10.1080/1045988X.2016.1231109

Gage, N. A., Grasley-Boy, N., Lombardo, M., & Anderson, L. (2020). The effect of school-wide positive behavior interventions and supports on disciplinary exclusions: A conceptual replication. *Behavioral Disorders*, *46*(1), 42-53.

doi:https://doi.org/10.1177/0198742919896305.

Garwood, J. D., & Van Loan, C. L. (2019). Pre-service educators' dispositions toward inclusive practices for students with emotional and behavioural difficulties. *International Journal of Inclusive Education, 23*(12), 1332-1347. doi:https://doi.org/10.1080/13603116.2018.1447614

Gianoumis, S., Seiverling, L., & Sturmey, P. (2012). The effects of behavior skills training on correct teacher implementation of natural language paradigm teaching skills and child behavior. *Behavioral Interventions, 27*, 57–74. https://doi.org/10.1002/bin.1334

Girven, T.R. (2015). *Exploring the Effectiveness of Behavior Skills Training Paired with Observational Learning to Decrease Disruptive*. (Accession No. 10096558 Thesis, Saint Louis University, Saint Louis. Proquest Thesis Publishing.

Greer-Chase, M., Rhodes, W. A., & Kellam, S. G. (2002). Why the prevention of aggressive disruptive behaviors in middle school must begin in elementary school. *The Clearing House, 75*(5), 242-245. Retrieved from https://ezproxylocal.library.nova.edu/login?url=https://www-proquest-com.ezproxylocal.library.nova.edu/scholarly-journals/why-prevention-aggressive-disruptive-behaviors/docview/196863637/se-2

Gregory, A., Cornell, D., Fan, X., Sheras, P., Shih, T.-H., & Huang, F. (2010). Authoritative school discipline: High school practices associated with lower bullying and victimization. Journal of Educational Psychology, 102, 483-496. https://doi.org/10.1037/a0018562

Hanimoglu, E. (2018). Deviant Behavior in School Setting. *Journal of Education and*

Training Studies, *6*(10), 133-141.

Hoffmann, L., Närhi, V., Savolainen, H., & Schwab, S. (2021). Classroom behavioral climate in inclusive education -- A study on secondary students' perceptions. *Journal of Research in Special Educational Needs*, *21*(4), 312-322. doi:https://doi-org.ezproxylocal.library.nova.edu/10.1111/1471-3802.12529

Hogan, A., Knez, N., & Kahng, S. (2015). Evaluating the use of behavioral skills training to improve school staffs' implementation of behavior intervention plans. *Journal of Behavioral Education*, *24*(2), 242-254.

Hood, S. J. (2020). Two-way immersion teacher preparation. *Foreign Language Annals*, *53*(1), 128–148. https://doi-org.ezproxylocal.library.nova.edu/10.1111/flan.12441

Hyseni Duraku, Z., & Hoxha, L. (2021). Effects of School Climate and Parent Support on Academic Performance: Implications for School Reform. *International Journal of Educational Reform*, 10567879211015946.

Ingemarson, M., Rosendahl, I., Bodin, M., & Birgegård, A. (2020). Teacher's use of praise, clarity of school rules and classroom climate: Comparing classroom compositions in terms of disruptive students. *Social Psychology of Education: An International Journal*, *23*(1), 217-232. doi:https://doi-org.ezproxylocal.library.nova.edu/10.1007/s11218-019-09520-7

Ingersoll, R. M., & Smith, T. M. (2003). The wrong solution to the teacher shortage. *Educational Leadership*, *60*(8), 30-33. Retrieved from https://ezproxylocal.library.nova.edu/login

Kiramba, L. K., Deng, Q., & Viesca, K. (2022). Novice general education teachers'

perceptions of preparedness in U.S. public schools: The impact of learning about and working with multilingual students. *Teaching and Teacher Education, 116*. https://doi-org.ezproxylocal.library.nova.edu/10.1016/j.tate.2022.103757

Kirkpatrick, M., Akers, J., & Rivera, G. (2019). Use of behavioral skills training with teachers: A systematic review. *Journal of Behavioral Education, 28*(3), 344-361.

Kirkpatrick, M., Rehfeld, D. M., Akers, J. S., Rivera, G., & Sulak, T. N. (2021). Using behavioral skills training with preservice teachers in the university classroom. *Behavioral Interventions, 36*(1), 145-158.

Klaft, J. M., & Codding, R. S. (2021) Promoting teachers' implementation adherence and quality of the good behavior game using behavior skills training. *Journal of Educational and Psychological Consultation, 32*(2), 156 184, https://doi.org/10.1080/10474412.2021.1939704

Kunnavatana, S. S., Bloom, S. E., Samaha, A. L., & Dayton, E. (2013). Training teachers to conduct trial-based functional analyses. *Behavior Modification, 37*(6), 707-722. http://doi.org/10.1177/0145445513490950

Lannie, A.L., & McCurdy, B.L. (2007). Preventing Disruptive Behavior in the Urban Classroom: Effects of the Good Behavior Game on Student and Teacher Behavior. *Education and Treatment of Children 30*(1), 85-98. doi:10.1353/etc.2007.0002.

LaRusso, M., Bates, D., & Selman, R. (2008). Teachers as builders of respectful school climates: Implications for adolescent drug use norms and depressive symptoms in high school. Journal of Youth and Adolescence, 37,386-398. https://doi.org/10.1007/s10964-007-9212-4

La Velle, L., Newman, S., Montgomery, C., & Hyatt, D. (2020). Initial teacher education in England and the Covid-19 pandemic: Challenges and opportunities. *Journal of Education for Teaching*, *46*(4), 596-608.

Ledford, J. R., & Gast, D. L. (2018). Single-case research methodology: Applications in special education behavioral services (3rd edition). Routledge.

Levine, A. (2006). Educating school teachers. Retrieved from http://www.edschools.org/teacher_report.htm

Lloveras, L. A., Tate, S. A., Vollmer, T. R., King, M., Jones, H., & Peters, K. P. (2022). Training behavior analysts to conduct functional analyses using a remote group behavioral skills training package. *Journal of applied behavior analysis*, *55*(1), 290–304. https://doi.org/10.1002/jaba.893

Lyons, M. D., Otis, K. L., Huebner, E. S., & Hills, K. J. (2014). Life satisfaction and maladaptive behaviors in early adolescents. *School Psychology Quarterly*, *29*(4), 553-566. doi:https://doi.org/10.1037/spq0000061

Mahvar, T., Farahani, M. A., & Aryankhesal, A. (2018). Conflict management strategies in coping with students' disruptive behaviors in the classroom: Systematized review. *Journal of Advances in Medical Education & Professionalism*, *6*(3), 102.

Melnick, S. A., & Meister, D. G. (2008). A comparison of beginning and experienced teachers' concerns. *Educational research quarterly*, *31*(3), 39-56.

Morgan, C. A., & Wine, B. (2018). Evaluation of behavior skills training for teaching work skills to a student with autism spectrum disorder. *Education and Treatment of children*, *41*(2), 223-232.

Närhi, V., Kiiski, T., & Savolainen, H. (2017). Reducing disruptive behaviours and

improving classroom behavioural climate with class-wide positive behaviour support in middle schools. *British Educational Research Journal, 43*(6), 1186-1205. doi:https://doi-org.ezproxylocal.library.nova.edu/10.1002/berj.3305

Noltemeyer, A., Petrasek, M., Stine, K., Palmer, K., Meehan, C., & Jordan, E. (2018). Evaluating and celebrating PBIS success: Development and implementation of Ohio's PBIS recognition system. *Journal of Applied School Psychology*, *34*(3), 215-241.

Oakes, W.P., Schellman, L.E., Lane, K.L. Common, E.A. Powers, L., Diebold, T., & Gaskill, T. (2018). Improving educators' knowledge, confidence, and usefulness of functional assessment-based interventions; Outcomes of professional learning. Education and Treatment of Children, 41 (4), 553-566, doi: 10.1354/etc.2018.0028

Oostdam, R. J., Koerhuis, M. J. C., & Fukkink, R. G. (2019). Maladaptive behavior in relation to the basic psychological needs of students in secondary education. *European Journal of Psychology of Education, 34*(3), 601-619. doi:https://doi-org.ezproxylocal.library.nova.edu/10.1007/s10212-018-0397-6

Ozturk, M., & Yildirim, A. (2013). Adaptation challenges of novice teachers. *Hacertepe Universtitiesi Egitim Fakultesi Dergisi*, 28 (1), 294-307.

Parsons, M. B., Rollyson, J. H., & Reid, D. H. (2013). Teaching Practitioners to Conduct Behavioral Skills Training: A Pyramidal Approach for Training Multiple Human Service Staff. *Behavior analysis in practice, 6*(2), 4–16. https://doi.org/10.1007/BF03391798

Parsonson, B. S. (2012). Evidence-Based Classroom Behaviour Management

Strategies. *Kairaranga, 13*(1), 16-23.

Podolsky, A., Kini, T., Bishop, J., & Darling-Hammond, L. (2016). *Solving the Teacher Shortage: How to Attract and Retain Excellent Educators* (research brief). Palo Alto, CA: Learning Policy Institute.

Randazzo, M. E. (2011). *Elementary teachers' knowledge and implementation of applied behavior analysis techniques* (Order No. 3460721). Available from ProQuest Dissertations & Theses Global. (878551564). Retrieved from https://ezproxylocal.library.nova.edu/login?url=https://www-proquest-com.ezproxylocal.library.nova.edu/dissertations-theses/elementary-teachers-knowledge-implementation/docview/878551564/se-2?accountid=6579

Reinke, W. M., Herman, K. C., & Dong, N. (2018). The incredible years teacher classroom management program: Outcomes from a group randomized trial. *Prevention Science, 19*(8), 1043-1054. doi:http://dx.doi.org/10.1007/s11121-018-0932-3

Riley, B., & Sakimura, V. (2018). ALIGNMENT: The Cornerstone of Teacher Prep Stronger coordination between teacher-educator programs and school districts can solidify the knowledge and skills that novice teachers need. *Educational Leadership, 75*(8), 32–37.

Rispoli, M., Neely, L., Healy, O., & Gregori, E. (2016). Training public school special educators to implement two functional analysis model. *Journal of Positive Behavioral Interventions,* 15(2), 79-89. https://doi.org/10/1177/1098300712449868

Roane, H.S., Fisher, W.W., & Carr, J. E. (2016). Applied behavior analysis as treatment for autism spectrum disorder. The Journal of Pediatrics, 175, 27-32.

Robert, C. (2020). Implementing Discipline Reform: One District's Experience with PBIS. *School Leadership Review*, *15*(1), 22.

Roumell, E. A. (2019). Priming adult learners for learning transfer: Beyond content and delivery. *Adult Learning*, *30*(1), 15-22.

Rowe, K J. & Rowe, K.W. (1992). The relationship between inattentiveness in the classroom and reading achievement (part b): A explanatory study. Journal of the American Academy of Child and Adolescent Psychiatry. 1L, 357-368.

Samudre, M. D., Allday, R. A., & Lane, J. D. (2022). Training Preservice General Educators to Collect Accurate Antecedent-Behavior-Consequence Data. *Education and Treatment of Children*, *45*(2), 173-191.

Sarokoff, R. A., & Sturmey, P. (2004). The effects of behavioral skills training on staff implementation of discrete-trial teaching. *Journal of Applied Behavior Analysis*, *37*(4), 535-538.

Sawyer, M.N., Andzik, N.R., Kranak, M.P., Willke, C.P., Curiel, E.S.L., Hensley, L.E., & Neff, N.A. (2017). Improving pre-service teacher's performance skills through behavioral skills training. Behavior Analysis in Practice, 10(3), 296-300. doi: 10.1007/s40617-017-0198-4

Scholastic & The Bill and Melinda Gated Foundation. (2012). Primary Sources: 2012. Retrieved from http://www.scholastic.com/primarysources/pdfs/Gates2012_full.pdf

Seiverling, L., Pantelides, M., Ruiz, H. H., & Sturmey, P. (2010). The effect of

behavioral skills training with general case training on staff chaining of child vocalizations within natural language paradigm. *Behavioral Interventions*, *25*, 53–75. https://doi.org/10.1002/bin.293

Sezer, S. S. (2017). Novice teachers' opinions on students' disruptive behaviours: A case study. *Eurasian Journal of Educational Research*, *17*(69), 199-219.

Shah, N., & McNeil, M. (2013). Suspension, expulsion data cast harsh light on some schools. Education Week, 32(16), 12.

Shahzad, S., Khan, K. B., Rasool, S., & Fatima, R. (2021). A Study of Coping Strategies to Deal with Disruptive Behavior in Special Schools. *Ilkogretim Online*, *20*(2), 453–459. https://doi-org.ezproxylocal.library.nova.edu/10.17051/ilkonline.2021.02.49

Shank, M. K., & Santiague, L. (2022). Classroom management needs of novice teachers. *Clearing House: A Journal of Educational Strategies, Issues and Ideas, 95*(1), 26-34. doi:https://doi.org/10.1080/00098655.2021.2010636

Skinner, B.F. (1938). *The behavior of organisms: An experimental analysis*. New York :Appleton-Century-Crofts.

Skinner, B.F. (1953). *Science and human behavior*. New York: Free Press.

Skinner, M. E., & Hales, M. R. (1992). Classroom teachers' 'explanations' of student behavior: One possible barrier to the acceptance and use of applied behavior analysis procedures in the schools. Journal of Educational and Psychological Consultation, 3(3), 219-232. doi:10.1207/s1532768xjepc0303_2

Smith, S. C., & Higbee, T. S. (2021). Effects of Behavioral Skills Training on Teachers Conducting the Recess-to-Classroom Transition. *Journal of Behavioral*

Education, *30*(4), 624–640. https://doi-org.ezproxylocal.library.nova.edu/10.1007/s10864-020-09395-1

Spadafora, N., Al-Jbouri, E., McDowell, H., Andrews, N. C. Z., & Volk, A. A. (2022). Be a little rude, but not too much: Exploring classroom incivility and social network position in adolescents. *Journal of Early Adolescence, 42*(4), 565-585. doi:https://doi.org/10.1177/02724316211058074

Stevenson, N. A., VanLone, J., & Barber, B. R. (2020). A commentary on the misalignment of teacher education and the need for classroom behavior management skills. *Education and Treatment of Children, 43*(4), 393-404. Retrieved from https://ezproxylocal.library.nova.edu/login

Stough, L. (2001). Classroom management: A critical part of educational psychology and teacher education.

Sutherland, K. S., Conroy, M. A., Algina, J., Ladwig, C., Jessee, G., & Gyure, M. (2018). Reducing child problem behaviors and improving teacher-child interactions and relationships: A randomized controlled trial of BEST in CLASS. *Early Childhood Research Quarterly*, *42*, 31-43.

Taskin, C., & Canli, U. (2021). Examination of the Concept of School Climate from the Perspective of Physical Education and Sports Teacher Candidates. *World Journal of Education, 11*(1), 11-19.

Todd, A. W., Horner, R. H., & Sugai, G. (1999). Self-monitoring and self-recruited praise: Effects on problem behavior, academic engagement, and work completion in a typical classroom. *Journal of Positive Behavior Interventions, 1*(2), 66. Retrieved from

https://ezproxylocal.library.nova.edu/login?url=https://www.proquest.com/scholarly-journals/self-monitoring-recruited-praise-effects-on/docview/218765971/se-2?accountid=6579

Topprakci, E. (2008). Sinifa dayali yonetim. (Classroom-based management). Ankara: PegemA Yayincilik.

U.S. Department of Education. (July 2022). Institute of Education Sciences, National Center for Education Statistics.

VanDerwall, R. (2021). Effects of Behavioral Skills Training on Preservice Teachers' Ability to Code Articles" (2021). *Dissertations*. 3775. https://scholarworks.wmich.edu/dissertations/3775

Vindegaard, N., & Benros, M. E. (2020). COVID-19 pandemic and mental health consequences: Systematic review of the current evidence. *Brain, behavior, and immunity*, *89*, 531–542. https://doi.org/10.1016/j.bbi.2020.05.048

Walker, S., & Graham, L. (2021). At risk students and teacher-student relationships: Student characteristics, attitudes to school and classroom climate. *International Journal of Inclusive Education, 25*(8), 896-913. doi:https://doi-org.ezproxylocal.library.nova.edu/10.1080/13603116.2019.1588925

Walter, H. J., Gouze, K., & Lim, K. G. (2006, January). Teachers' beliefs about mental health needs in inner city elementary schools. Journal of the American Academy of Child and Adolescent Psychiatry, 45(1), 61-68. doi:10.1097/01.chi.0000187243. 17824.6c

Watson, J.B. (1913). Psychology as the behaviorist views it. Psychological Review, 20, 158-177.

Watson, J.B. (1924). Behaviorism. New York: W. Norton

Wells, J. C., Sheehey, P., & Pratt, E. (2019). Reducing elopement in a preschooler with autism using differential reinforcement. *Advances in Neurodevelopmental Disorders, 3*(1), 38-44. http://doi.org/10.1007/s41252-018-0085-1

Weston, R., Davis, T. N., Radhakrishnan, S., O'Guinn, N., & Rivera, G. (2020). Comparing Performance Feedback and Video Self-Monitoring Within a BST Package to Train Pre-service Behavior Analysts to Conduct Preference Assessments. *Journal of Behavioral Education, 29*(3), 571–583. https://doi-org.ezproxylocal.library.nova.edu/10.1007/s10864-019-09333-w

Xia, Z., Yu, H., & Yang, F. (2022). Benevolent leadership and team creative performance: Creative self-efficacy and openness to experience. *Frontiers in Psychology, 12*(745991), 1–12. https://doi.org/10.3389/fpsyg.2021.745991

Xiang, M., Zhang, Z., & Kuwahara, K. (2020). Impact of COVID-19 pandemic on children and adolescents' lifestyle behavior larger than expected. *Progress in cardiovascular diseases, 63*(4), 531–532.

Appendix A

Prequalifying Questionnaire

Prequalifying Questionnaire

Instructions*: Please select the answers that apply to you for each question or fill in the blank.*

1. Approximately how many years have you been teaching? _____

2. What is your gender? □ Male □ Female

3. What academic degree(s) have you obtained? (Please check all that apply)

□ Bachelor's □ Master's □ Doctorate □ Other _____

4. What grade(s) do you teach? (Please check all that apply)

□ Kindergarten □ 1st□ 2nd □ 3rd □ 4th □ 5^{th} 6^{th} □ 7^{th} □ 8^{th} □

1. What type of population do you primarily teach?

□ General Education □ Special Education

6. In your undergraduate or graduate education, did you take a course that focused primarily on behavior management? □ Yes □ No

Appendix B

Classroom Data Collection Tool

Classroom Data Collection Tool

School: _____

Overview. *This tool includes two components: (a) a* ***checklist*** *of empirically supported practices to "look for" periodically, and (b)* ***observation items****, which have been validated for informing decisions about relative strengths/needs with positive and proactive classroom management* (Simonsen et al., 2020).

Instructions. *Complete the checklist periodically to check presence/absence of empirically supported practices and complete observation items routinely to inform decisions about professional development. Utilize an online form for efficient analysis (Sample Microsoft Form).*

Assessment Type (circle):	**Schedule** (circle):	**Group size** (circle):
Self-Assessment	Baseline	Whole Class
Direct Observation	Follow-up	Small Group
Educator:	**Observer:**	**Date:**
Room: **Grade Level:**	**Content Area:**	**Time Start:** **Time End:**
Instructional Activity:		**Setting notes:**

Checklist

Periodically, check for evidence of the following effective classroom management practices.

Check for Evidence of Classroom Structure and Expectations	Yes	No
1. The educator **posted schedule** for the day and/or class activity.		
2. The educator **posted** 3-5 positively stated behavioral **expectations** in the classroom.		
3. The **physical arrangement** of the room was appropriate for the activity. [d]		
4. The educator developed **routines** for the day and/or class activity. [e]		
5. The educator **taught** [f] and **prompted** [g] 3-5 positively stated behavioral **expectations**.		
6. The educator selected and implemented additional **consequence strategies**, if appropriate, to support student behavior. [h]		

[d] **Physical arrangement** (seating assignments, furniture arrangement, etc.) is designed to maximize structure and minimize distraction.
[e] Students demonstrate fluency with **routines**, educator provides lesson plans, and/or educator references previously taught routines.
[f] Students demonstrate fluency with **expectations**, educator provides lesson plans, and/or educator references previously taught expectations.
[g] Effective **prompts** are delivered before a behavior is expected and make it more likely for students to engage in appropriate behavior for the given activity/environment.
[h] **Additional consequence strategies** may include classroom systems to acknowledge appropriate behavior or consequences to respond to inappropriate behavior; effective implementation is consistent, systematic, and accompanied by behavior-specific feedback.

Observation/Self-Assessment Items

Assess implementation of positive and proactive classroom management practices.

Positive and Proactive Classroom Management Practices *Please complete this portion after observing an educator for a minimum of 20 minutes of instruction.*	0 = *Not In Place*	1 = *Partially In Place*	2 = *Fully In Place*
1. The educator effectively engaged in **active supervision** of students in the classroom (i.e., moving, scanning, interacting). [a]	0	1	2
2. The educator effectively provided most/all students with **opportunities to respond** and participate during instruction. [b]	0	1	2
3. The educator effectively provided **specific praise** to acknowledge appropriate student academic and social behavior. [c]	0	1	2
4. The educator provided **more frequent acknowledgement** for appropriate behaviors than inappropriate behaviors (+ to - ratio).	0	1	2

[a] Effective **active supervision** includes systematic scanning, unpredictable movement, and interactions spread across students.
[b] Effective **OTRs** provide opportunities to various numbers of students using various opportunity and response modalities (verbal, written, gestural/performance).
[c] Effective **specific praise** names the behavior and is contingent, genuine, and contextually/culturally appropriate (e.g., address by name, describe behavior, use words of approval, and connect back to expectations).

Adapted from the Classroom Management Observation Tool (CMOT)
Simonsen, B., Freeman, J., Kooken, J., Dooley, K., Gambino, A. J., Wilkinson, S., VanLone, J., Walters, S., Byun, S. G., Xu, X., Lupo, K., & Kern, L. (2020). *Classroom Management Observation Tool (CMOT).* Storrs, CT: University of Connecticut. Retrieved from: https://nepbis.org/classrooms-data-tools-resources/

Classroom Data Collection Tool

School: _____

Tally Sheet

During the observation, tally the number of times you hear teacher praise, teacher use of reprimands, teacher providing an OTR (i.e., academic question), and number of disruptive student behaviors. Take notes as you observe.

	Interval 1 (1-10 minutes)	Interval 2 (11-20 minutes)
SPECIFIC Praise [i]		
GENERAL Praise [i]		
Error Correction [j]		
Opportunity to Respond (OTR) [k]		
Disruptive Behavior [l]		
Notes:		
Assessing Student Engagement Give attention to how engaged the students are during the observation. Make a ballpark estimate by looking up and determining approximately what percentage of students were engaged on average during the first 10 minutes of the observation. Provide the same estimate for the next 10 minutes. Average the two estimates for your estimate of student engagement.		
In general, what percentage of students were engaged during instruction? [m]		

Adapted from The Classroom Check-Up Rubric: Gather Data - https://www.classroomcheckup.org/

[i] At Least 2:1 Specific to General Praise Ratio
[j] At Least 5:1 Praise to Correction Ratio
[k] Three or More Opportunities to Respond Per Minute
[l] Fewer than 5 Disruptions During a 10 Minute Observation
[m] At Least 95% of Students Engaged

Appendix C

Social Validity Survey

Social Validity Survey

Your Current Skill Level: Please indicate your **current skill level** based on formal instruction in each of the following items by circling the choice between 0 and 3 as indicated below. Please use the following descriptors while rating your skill level.

3 – Able to apply and perform this skill in all situations without assistance and are capable of coaching others in the application of this skill.

2 – Able to apply this skill to situations occasionally while needing minimum guidance to perform it successfully.

1 – Able to understand and discuss the terminology, concepts, principles and issues related to the skill but cannot apply it to situations.

0 – Not sure what this statement means.

No.	Skills	Current skill level
1)	Develop behavioral intervention strategies based on information provided in the training, direct observation of students, and application of skills in the classroom environment	0 1 2 3
2)	Use positive/negative reinforcement-based behavioral intervention strategies to *increase* the occurrence of appropriate behaviors in the classroom environment	0 1 2 3
3)	Use positive/negative reinforcement-based behavioral intervention strategies to *decrease* the occurrence of inappropriate behaviors in the classroom environment	0 1 2 3
4)	Use behavioral intervention strategies to promote and teach specific functional skills such as academic strategies, communication, social skills, etc. to shape positive culture and climate of the school environment	0 1 2 3

Appendix D

Interobserver Agreement Data Collection Sheet

Interobserver Agreement Data Collection Sheet

Date	Observer 1 Error Correction using 1 of 15 ABA Techniques	Observer 2 Error Correction Using 1 of 15 ABA Techniques	Total Count IOA	Observer 1: Disruptive Behavior (off-task, talking without permission, out of seat without permission)	Observer 2: Disruptive Behavior (off-task, talking without permission, out of seat without permission)	Total Count IOA	Notes

Appendix E

Procedural Fidelity Checklist

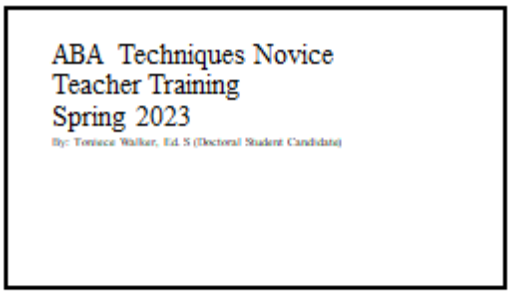
Procedural Fidelity Checklist

Provided all necessary Training Materials Yes or NO	Provided all necessary Training Materials Yes or NO	Provided all necessary Training Materials Yes or NO
Reviewed the objectives of the training session YES or No	Reviewed the objectives of the training session YES or No	Reviewed the objectives of the training session YES or No
Provided all steps of BST Training (Modeling, feedback, rehearsal, and feedback). Yes or No	Provided all steps of BST Training (Modeling, feedback, rehearsal, and feedback). Yes or No	Provided all steps of BST Training (Modeling, feedback, rehearsal, and feedback). Yes or No
Provide Timely feedback to staff during training sessions (same day). Yes or NO	Provide Timely feedback to staff during training sessions (same day). Yes or NO	Provide Timely feedback to staff during training sessions (same day). Yes or NO
Check for Understanding every 5-10 minutes during training session. Yes or NO	Check for Understanding 5-10 minutes during training session Yes or NO	Check for Understanding every 5-10 minutes during training session. Yes or NO

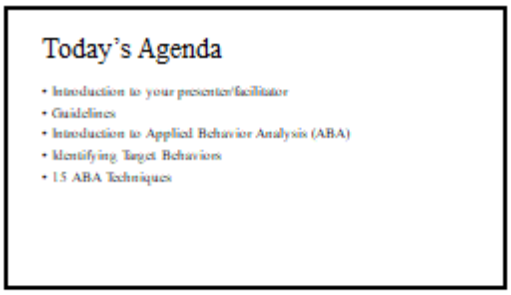
Appendix F

Novice Teacher Training Presentation

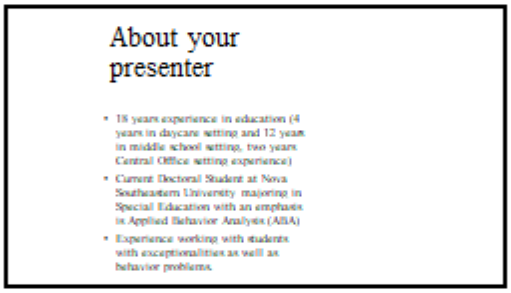
Novice Teacher Training Presentation



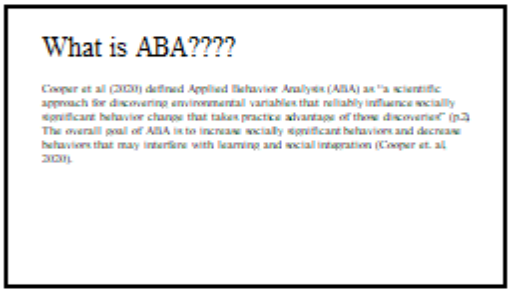
1



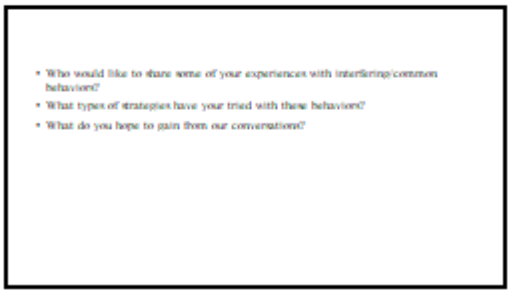
2



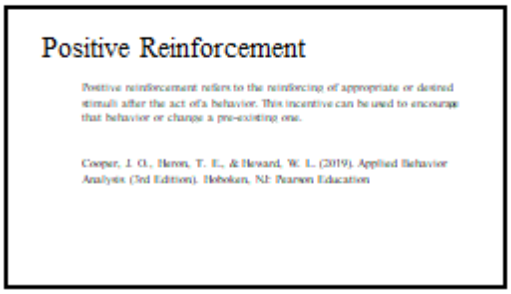
3



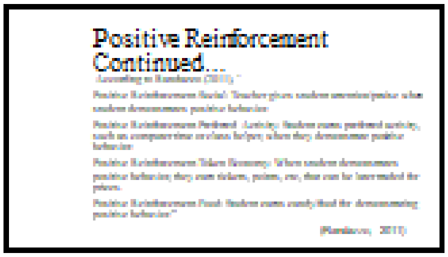
4



5



6


Positive Reinforcement
Continued…
7


Positive Reinforcement
Video Example
8


Shaping
9


Behavior Contract
10


Modeling
11


Prompting/Fading
12

Group Contingency

- A group contingency is a behavior managing procedure where a single consequence (it can be a reward or aversive) is given based on either the behavior of an individual in a group, the behavior of a particular set of individuals within the group or the group as a whole. The entire group receives the consequence. This type of behavior management leverages peer pressure and peer monitoring.

(ABA Connect, 2018).

13

Extinction

- In applied behavior analysis (ABA), extinction refers to **the fading away and eventual elimination of undesirable behaviors**. If a problem behavior no longer occurs, it's said to be extinct, and the therapeutic process of accomplishing this is referred to as extinction.
- (Applied Behavior Analysis Edu, 2023).

14

Punishment

- Punishment (Teacher verbally reprimands student or takes away a privilege when student's behavior is inappropriate.)
- (Randazzo, 2011).

15

Reinforce Incompatible Behavior/ Differential Reinforcement

- Reinforcing a behavior that is opposite of the target behavior. Ex. Have a student who may be out of their seat often to sit at your desk and work the PowerPoint presentation.
- Differential Reinforcement-help to reinforce desired behavior and not reinforcing the undesired behavior.
- (Randazzo, 2011).

16

Time-out/15 Overcorrection

- Time-out- (Student is temporarily separated from peers/situation following inappropriate behavior.)
- Overcorrection- (When student's behavior is inappropriate, teacher requires student to practice more
- positive behavior – i.e. student who is rude to peer is required to practice giving his/her peer at least one
- compliment every day.)

(Randazzo, 2011).

17

References

- Cooper, J. O., Heron, T. E., & Heward, W. L. (2019). Applied Behavior Analysis (3rd Edition). Hoboken, NJ: Pearson Education.
- No Author. (2012, May 4). Teaching Mouse. Positive Reinforcement [Video]. YouTube. https://www.youtube.com/watch?v=[illegible]
- No Author. (2018, August 23). Behavior Modeling CESP [Video]. YouTube. https://www.youtube.com/watch?v=[illegible]
- No Author. Behavior Contracts. (2023). Positive Environment, Network of Trainers. Retrieved from [illegible]
- Randazzo, M. E. (2011). [illegible] Available from ProQuest Dissertations & Theses Global. [illegible] Retrieved from [illegible]
- Shira. The Behavioural Definition of Punishment. How to ABA. (2019, July 28). Retrieved from [illegible]

18

Group Contingency

- A group contingency is a behavior managing procedure where a single consequence (it can be a reward or restrictive) is given based on either the behavior of an individual in a group, the behavior of a particular set of individuals within the group, or the group as a whole. The entire group receives the consequence. This type of behavior management leverages peer pressure and peer monitoring.

(Alberto, 2018)

13

Extinction

- In applied behavior analysis (ABA), extinction refers to the fading away and eventual elimination of undesirable behaviors. If a problem behavior no longer occurs, it is said to be extinct, and the therapeutic process of accomplishing this is referred to as extinction.
- (Applied Behavior Analysis Edu, 2021).

14

Punishment

- Punishment (Teacher verbally reprimands student or takes away a privilege when student's behavior is inappropriate.)
- (Rambaran, 2021).

15

Reinforce Incompatible Behavior/ Differential Reinforcement

- Reinforcing a behavior that is opposite of the target behavior. Ex. Have a student who may be out of their seat often to sit on your desk and work the PowerPoint presentation.
- Differential Reinforcement help us reinforce desired behavior and not reinforcing the undesired behavior.
- (Rambaran, 2021).

16

Time-out/Overcorrection

- Time-out (Student is temporally separated from positive situation following inappropriate behavior.)
- Overcorrection (When student's behavior is inappropriate, teacher requires student to practice more
- positive behavior, i.e. student who is rude to peers is required to practice giving his/her peers an 'issue one
- compliment every day.)

(Rambaran, 2021).

17

References

18