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THE EFFECTS OF BEHAVIOR SKILLS TRAINING ON EDUCATORS' DEVELOPMENT OF FUNCTIONAL BEHAVIORAL ASSESSMENT

A DISSERTATION APPROVED FOR
THE DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

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With a loving and grateful heart, I dedicate this dissertation to my beloved father, may Allah bless his soul. To my angel father whose loving spirit still sustains me.

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ABSTRACT

Problem behaviors are common in students with disabilities, especially students with autism spectrum disorder (ASD). Interventions for problem behaviors are more likely to be effective when they are based on the outcomes of a functional behavioral assessment (FBA). Research suggests that educators may not have the requisite levels of expertise or support to develop an accurate functional behavioral assessment. Studies have also found that behavior skills training (BST) is an effective strategy to deliver professional training. The current study examined the effects of using BST to train five Saudi educators in developing accurate FBA reports for students with autism spectrum disorder. Results indicated that training, which utilized both individual and group sessions, was successful for all participants. Outcomes for intervention integrity and social validity are reported. The study implications and future research directions are also addressed.

CHAPTER I – INTRODUCTION

Students with disabilities are likely to display problem behavior in the classroom; especially students with autism (Bambara & Kern, 2005; Fauth, Platt & Parsons, 2017). The US Department of Education (2013) defines autism disability as "A developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age three that adversely affects a child's educational performance (Regulations Section, 300.8 C1). Other characteristics often associated with autism are engagement in repetitive activities and stereotyped movements, resistance to environmental change or change in daily routines, and unusual responses to sensory experiences (U.S. Department of Education, 2013, Regulations Section, 300.8 C1). Students with autism tend to exhibit more behavior challenges in the classroom compared to students with other disabilities (Granpeesheh et al., 2010; Hume, Sreckovic, Snyder & Carnahan, 2014; Koyama & Wang, 2011). Functional behavior assessment is an educational assessment used in school settings to identify a behavior problem which interferes with a student learning, analyze it to determine the function that maintains the problem behavior, and then design an appropriate intervention to treat the problem behavior (Sugai et al., 2000). There are specific components that need to be addressed in a functional behavior assessment in order to be considered a comprehensive assessment and Iovannone, Wang, Sanchez, Kauk, and Kincaid (2017) developed the FBA/BIP Technical Adequacy Tool for Evaluation (TATE) checklist to assist educators evaluate addressing the required steps to develop a functional behavior assessment report. TATE is a suitable tool that can be used to assess educators' skills to develop a comprehensive functional behavior assessment. However, educators have a lack of knowledge and skills needed to develop an FBA (Benazzi, Horner & Good, 2006).

Behavior skills training is a training protocol and it relies on providing four effective strategies: instructions, modeling, rehearsal, and feedback (DiGennaro Reed, Blackman, Erath, Brand & Novak, 2018; Sarokoff & Sturmey, 2004; Ward-Horner & Sturmey 2012). Instruction informs the trainees about the steps required to perform the target skill and can be provided in verbal or written form (DiGennaro Reed et al., 2018). Professionals model the target skill by demonstrating it to trainees and sometimes other methods can be used to deliver the demonstration if possible, such as videotapes (Ward-Horner & Sturmey 2012). The rehearsal strategy provides the opportunity for the trainee to practice the target skill after receiving the appropriate instruction and modeling strategies (DiGennaro Reed et al., 2018). Using behavior skills training, as strategy to providing training, demonstrated effectiveness in a variety of purposes, such as training educators to implement functional analysis (Wallace, Doney, Mintz-Resudek & Tarbox, 2004), and training caregivers to increase compliance behavior in children (Miles & Wilder, 2009). In addition, behavior skills training was utilized to train participants in using discrete trial strategy to teach students with autism different skills (Sarokoff & Sturmey, 2004), and it was used to train teachers to conduct functional analyses (Ward-Horner & Sturmey 2012).

In general, developing an FBA report, which is a necessary assessment that can build an individualized and effective behavioral intervention, can lead to treatment of behavior problems. However, educators have a lack of knowledge and skills needed to develop an FBA report. On the other hand, the utility of BST showed effectiveness through different purposes. Nonetheless, there were no studies found in the literature review that examined the effect of training educators on developing FBA using BST as a strategy to deliver training. Thus, there was a need to fill a gap in the literature review and test the effect between these two variables of developing FBA

and using BST as a way to deliver training. This is consistent with similar studies that showed training enhanced the educators' ability to conduct an accurate FBA effectively (Bethune & Wood, 2013; Van Acker et al., 2005) and has reduced challenging behavior (Bethune & Wood, 2013; Machalicek et al., 2007).

CHAPTER II – REVIEW OF THE LITERATURE

Student Behavior Problems

A large amount of attention and support are directed toward improving students' academic achievement, such as enhancing the curriculum, instructional strategies, and interventions to support struggling learners. Although behavior problems in the classroom may also lead to low academic performance in students, behavior problems and their antecedents have not received sufficient attention from researchers. Studies found that behavior problems had a negative relationship with academic achievement (Epstein, Atkins, Cullinan, Kutash & Weaver, 2008; Kremer, Flower, Huang, Vaughn, 2016).

Previous studies have used different terms to describe students' behavior problems, such as disciplinary issues, non-compliance, misbehaving, and challenging behaviors. In fact, students exhibit a wide range of inappropriate behaviors in the classroom, such as spitting, hitting, crying, self-injuries, and aggressive behaviors. In addition to the relationship between poor academic performance and behavior problems, behavior problems can also cause damage to students themselves and others around them (Durand & Crimmins, 1988).

Other studies acknowledged that behavior problems could disrupt the learning process in the classroom and also place great pressure on teachers trying to mange such behaviors (Westling, 2010). Teachers face difficulties in dealing with students' behavior problems in the classroom, such as aggressive behaviors, which can be disruptive for teachers and peers, and also leads to a lack of a safe learning environment. General and special education teachers are struggling with students' behavior problems on a daily basis (Westling, 2010). An estimate of 50% of special education teachers reported a level of moderate to severe difficulty that they had faced to manage students with disabilities inappropriate behaviors (Westling, 2010).

Behavior problems are more common in students with disabilities compared to their typically developing peers (Bambara & Kern, 2005; Fauth, Platt & Parsons, 2017). There are many reasons that students with disabilities act inappropriately in the classroom. It could be due to lack of communication skills, as is the case for students with autism (Jang, Dixon, Tarbox & Granpeesheh, 2011). In fact, some students with disabilities have poor communication and interaction skills and this may lead them to communicate and interact with others inappropriately (DSM-5, 2013; Jang, Dixon, Tarbox, & Granpeesheh, 2011), such as hitting a peer with whom they want to play or crying to request an object from the teacher. Hitting and crying are not appropriate ways to play with others or seek an object from adults; however, due to the lack of communication and interaction skills, some students with disabilities exhibit behavior problems as an attempt to socialize with others. Sometimes students may exhibit severe problem behaviors such as aggressive and self-injurious behaviors, which require immediate and urgent response by teachers or professionals in the classroom.

Assessing the problem behaviors and knowing the cause is essential for treating and preventing these behaviors from occurring in the first place. Durand and Crimmins (1988) examined self-injurious behavior as one form of behavior problem and they studied the underlying causes that maintained the self-injurious behavior among students with disabilities. They discovered four functions that may lead students to exhibit these behaviors in the classroom: (a) attention seeking; (b) escaping from a difficult or less preferred task; (c) obtaining access to a tangible; and (c) suffering from sensory issues that make them uncomfortable. Attention seeking could be noticed when the child is yelling to seek the mother's attention, a child may display self-injurious behaviors to escape a difficult task, such as hitting their head on the table to avoid doing a math task, to obtain a tangible item by crying to get a favorite toy, and

other children may exhibit aggressive behavior to indicate discomfort caused by loud noise in the school. A disability symptom may result in communication failures, leading to problem behaviors. The reauthorization of the Individuals with Disabilities Education Act (IDEA) (2004) provided subsections regarding designing an appropriate behavioral intervention to address the behavioral issues of students with disabilities that interfere with the learning environment. Students with disabilities are more likely to exhibit behavior problems in the classroom, especially students with autism spectrum disorder, due to lack of skills needed for meaningful engagement in the classroom (Granpeesheh et al., 2010).

Autism Spectrum Disorder

There has been dramatic growth in the number of students identified with disabilities in the recent decades (Solomon, Necheles, Ferch & Bruckman, 2007). Autism was reported as one of the most common disabilities around the world among 13 disability categories defined under the Individuals with Disabilities Education Act (IDEA) (2004). In 2013, autism was considered the third most common disability in the United States (Kena et al., 2016). Alquraini reported that autism is considered the fifth most common disability among students in public schools in Saudi Arabia (2010). Thus, autism has received national and global recognition in Saudi Arabia in the last decade.

Autism Spectrum Disorder is defined as a developmental disability that is significantly affecting verbal and nonverbal commination and social interaction. Other ASD characteristics are engagement in repetitive activities, stereotyped movements, resistance to environmental change, and displaying odd responses to sensory experiences (U.S. Department of Education, 2013, Regulations Section, 300.8 C1). Also, the Diagnostic and Statistical Manual of Mental Disorders of the American Psychiatric Association, Fifth Edition (DSM-5, 2013) discussed that

ASD characteristics can vary in the severity level and from one child to another (Jang, Dixon, Tarbox, & Granpeesheh, 2011). For instance, one child with ASD may show severe characteristics of communication, interaction, and language skills deficits, while another child shows slight communication deficits and severe hypersensitivity issues. Every child with Autism Spectrum Disorder has unique characteristics.

Due to lack of verbal and nonverbal language, communication, and interaction skills (U.S. Department of Education, 2013, Regulations Section, 300.8 C1), students with ASD may display behavioral problems in the classroom (Granpeesheh et al., 2010; Trump et al., 2018). Thus, behavior problems are common issues among students with ASD and professionals have struggled to find appropriate ways to deal with behavioral issues of students with ASD in the classroom for decades (Kremer et al., 2016; Machalicek, O'Reilly, Beretvas, Sigafoos & Lancioni, 2007). In addition, there are other reasons that drive students with ASD to act inappropriately in the classroom, such as a change in the daily routine (Hume et al., 2014). Students with ASD may exhibit behavioral problems due to unpredictable changes in the environment around them, such as transition. Some individuals with ASD face a huge difficulty when they are required to transition from one activity to another and from one setting to another within the home, school, workplace, and community (Hume et al., 2014). Around 25% of young students with autism struggle with the transition in every school day (Koyama & Wang, 2011). Transition from one room to another can be difficult for some students with ASD who might become attached to one room or specific people, so it is hard for them to accept an unplanned change, move to a different room, or be surrounded by unfamiliar individuals during a school day. Crying, non-compliance, and self-injurious behaviors before or during the transition may be

an indication that the student is not ready to go. These behavior problems can be disruptive or threatening to the students themselves or others around them.

Many studies have been conducted on ways to manage individuals' with ASD behavioral issues (Bambara & Kern, 2005; Epstein et al., 2008; Machalicek et al., 2007). Behavior problems occur every day, and educators and families face difficulty managing these behaviors. There are many underlying causes that make students with ASD act inappropriately, one of which is lack of communication (Granpeesheh et al., 2010) and interaction skills (U.S. Department of Education, 2013, Regulations Section, 300.8 C1), which may lead them to engage in aggressive and self-injurious behavior when they fail to communicate their needs or desires to others. There is no single intervention that shows effectiveness to treat all behavioral problems that educators and parents encounter on a daily basis; however, applied behavior analysis therapy has many effective techniques that have been used to treat challenging behaviors in students with autism for over two decades (Trump et al., 2018).

Applied Behavior Analysis

Applied behavior analysis (ABA) is developed from a combination of other approaches that constitute the theoretical foundation of ABA, such as empiricism, functionalism, and behaviorism (Ertmer & Newby, 1993). Empiricism indicates learning could be done through the interaction with environment around us (Ertmer & Newby, 1993). Functionalism interprets learning as the functional relations between sensory and mental states and expresses this knowledge as a form of behaviors (Moore, 2011). Behaviorism is the theory that applied behavior analysis heavily relies on, and behaviorism identifies learning as a behavioral change occurring due to the association between a response and an environmental stimulus (Ertmer & Newby, 1993). Applied Behavior Analysis is a scientific practice that applies the principles of

behaviorism systematically to enhance a behavior that is socially significant. Experimentation is used to identify the variables that are causing behavior change (Cooper, 1982; Cooper, Heron & Heward, 2014). ABA is a way to understand the relationship between the environment and different behaviors in order to improve or change behavior. Noticeably, ABA is considered one of the most effective therapies that is based on the science of learning and behavior. Data collection and analysis are the basics of ABA therapy and these basics help professionals understand how the behavior works, how it is affected by environmental factors, and how learning can be provided appropriately. ABA therapy aims to increase behaviors that are useful, decrease inappropriate behaviors that are affecting learning, and shape or teach behaviors that are necessary for learning, socialization or independent living (Cooper, 1982; Cooper, Heron & Heward, 2014).

ABA therapy has many techniques that are used to improve or change behavior (Cooper, 1982; Cooper, Heron & Heward, 2014). Some of the main techniques are positive reinforcement and the antecedent-behavior-consequence model. Positive reinforcement can be provided when a person performs a target behavior, then should be followed immediately by giving the subject something as a reward. The reward could be a tangible item, sensory, or providing attention to the subject. The positive reinforcement technique increases the likelihood of the target behavior being repeated in the future (Cooper, Heron & Heward, 2014). For instance, if a child is not following table manners at dinnertime and the mother understands that the child is seeking the parents' attention, the mother can provide him with compliments every time he acts appropriately. Providing attention immediately after the target behavior has occurred would make the child more likely to follow table manners and act appropriately during dinnertime next time.

Another ABA main technique is Antecedent, Behavior, and Consequence or the A-B-C model. The A-B-C model allows better understanding of behaviors. Antecedent indicates understanding what happens before a behavior occurs, Behavior describes the actual behavior problem, and Consequence explains what happens after the behavior has occurred. The A-B-C technique provides the necessary information to understand behavior in a comprehensive way; thus, it shows what causes the behavioral problem and what function has maintained it. The A-B-C model can be helpful to understand the behavior problem and replace it with an appropriate behavior. For example, a teacher notices the student problem behavior of screaming that occurs every time she passes out the morning task. This may indicate the task is difficult for the student. The teacher could teach the student a replacement behavior, such as saying "I need help!" instead of screaming.

Applied behavior analysis techniques have strong empirical evidence of efficacy (Lindgren & Doobay, 2011). Recently, many ABA-based interventions have been conducted on students with ASD (Koyama & Wang, 2011; Machalicek et al., 2007; Smith, 2001), which resulted in a strong association between ABA and ASD in the field of special education (Trump et al., 2018). A large proportion of these studies were conducted to treat students' with ASD behavioral issues (Durand & Crimmins, 1988; Epstein et al., 2008; Hume et al., 2014). The current literature review indicated there is, as yet, no single technique that has been detected as the best representative of ABA therapy that could treat behavior problems effectively. Applied behavior analysis techniques have been employed in the field of special education not only to manage students' behavioral problems, "but also to prevent these behaviors from occurring in the first place" (Armstrong, Ogg, Sundman-Wheat, & Walsh, 2014, p. 25). Some ABA techniques are preferred by the law under certain circumstances to be used in the special education

programs, such as Functional Behavior Assessment (Armstrong at el., 2014; Gresham et al., 2004).

Behaviors are repeated when they serve a function for the student. There are many reasons explaining why a student may be engaging in problem behaviors and these reasons could fall into two major categories: (1) to escape or avoid something unpreferred and (2) to access something desirable (Freeman, n.d.). For example, a student may engage in hitting peers to escape completing a difficult task and he experiences the teacher gives him a time out or sends him to the office. Also, a student may make noise and cry to get the teacher' and peers' attention until the teacher asks him to stop and refuses to listen to the teacher while engaging in more disruptive behaviors with peers watching. These problem behaviors can be interpreted as a form of communication (Jang, Dixon, Tarbox & Granpeesheh, 2011; Machalicek et al., 2007). In fact, it may be considered the student's way of expressing to others that he is tired, bored, needs a break, or wants attention. Thus, it is necessary for educators to consider the reasons why a student may be engaging in problem behaviors (Freeman, n.d.). Functional behavior assessment helps educators to understand why students are engaging in problem behaviors in the classroom. Functional behavior assessment has roots in applied behavior analysis research and ABA techniques are built on scientific research and have proven effectiveness treating problem behavior (Cooper, Heron & Heward, 2014).

FBA has been used for over 50 years in applied behavior analysis research (Baer, Wolf & Risley, 1968). Specifically, FBA and behavior intervention plan are based on the A-B-C model, which originates from the applied behavior analysis (ABA) research (Hadaway & Brue, 2015). The A-B-C model assumes that the child's problem behavior is not a part of their diagnosis, however, this behavior problem occurs as a result of the environment around them. The A-B-C

model is a shortcut of (A) antecedent, (B) behavior, and (C) consequence (Hadaway & Brue, 2015). Antecedent describes what is happening prior to the occurrence of the problem behavior, behavior describes the problem behavior that the child is engaging in, and consequence describes everything that happens after the occurrence of the problem behavior. An A-B-C data collection chart should be used during conducting FBA and BIP. There are many studies conducted on FBA and ABA, they both showed effectiveness, and are considered evidence-based (Collet-Klingenberg, 2008).

Functional Behavior Assessment

The IDEA 1997 amendments and 2004 reauthorization addressed the disciplinary section in detail including behavioral interventions and positive behavioral support for students with disabilities. The IDEA requires school districts to conduct a functional behavior assessment under certain circumstances, such as when a student with disabilities is suspended from the educational placement for more than 10 days because of his or her inappropriate behavior, and the student's behavior interferes with the learning environment. Therefore, FBA becomes a suggested assessment by law to manage the behavior issues of students with disabilities.

Functional assessment is a process that works to identify the variables that predict and maintain problem behaviors (Horner & Carr, 1997). Steege and Watson (2009) provided a formal definition: "FBA is a set of assessment procedures that result the identification and description of the relationships between the unique characteristics of the individual and the contextual variables that trigger, motivate, and reinforce behavior" (p.7). Thus, FBA is a method used to identify the variables that are reliable to predict and maintain a problem behavior. The FBA variables should contain the following: (a) consequences, such as the function, motivation, or the goal of the behavior, (b) antecedents, such as the cues that prompt the behavior, (c) setting

events, such as the context that influences the probability of a specific cue which will prompt the problem behavior (Horner & Carr, 1997). For example, imagine a young boy with autism spectrum disorder who often bites his hands when his favorite iPad is out of reach. His father responds to the self-injurious behavior by giving him the iPad. The antecedent for the boy's self-injurious behavior is "iPad out of reach". The consequence of the behavior is "the father gives the iPad". Here, conducting FBA provides information, which can be utilized to design an effective positive behavior intervention plan. The behavior intervention plan works to treat the problem behavior.

FBA is a tool used for describing the problem behavior, identifying antecedent events that trigger the behavior in order to develop a hypothesis of the behavior, and testing the hypothesis through certain implementation strategies. The hypothesizing stage involves designing an appropriate Behavior Intervention Plan (BIP) to monitor intervention effectiveness by collecting data. The BIP is a document that outlines the protocol in FBA to improve the child's problem behavior (Neitzel & Bogin, 2008). The BIP must contain a detailed strategy to improve the student's behavior including the learning opportunities and social engagement that will be provided for the student. The FBA and BIP work to complete each other. In fact, FBA is used to define the problem behavior and identify the function of the behavior by investigating how and why the child is misbehaving. Thus the FBA leads to formulate the BIP.

Functional Behavior Assessment For Students With Disabilities

Functional behavior assessment is an appropriate management behavior tool to use across age groups and for students with and without disabilities. The 1997 IDEA and 2004 reauthorization mandate explicit requirements in designing an appropriate Individualized Educational Plan (IEP) including the use of Functional Behavior Assessment (Von Ravensberg

& Blakely, 2015). The requirements state that it is necessary to conduct FBA under certain circumstances, such as suspension of students for more then 10 days from the assigned education placement for disciplinary issues. FBA is used to address the relationship between classroom learning and student behavior. Conroy, Clark and Fox (2000) discussed some of the revisions in the IDEA and they highlighted the importance of preparing pre and in-service educators to utilize FBA. Thus FBA is a type of assessment preferred by law to use in students with disabilities who are in need.

Students with autism. Students with autism are suffering from communication and interaction deficits, which may lead them to a communication failure with others and then cause challenging behaviors. Studies discussed that using FBA assists in designing and implementing effective interventions for students with autism. In fact, FBA can target improving communication skills, challenging behavior, and conducting appropriate FBAs showed effective results in students with ASD (Collet-Klingenberg, 2008). Practitioners, educators, and parents can implement FBA after receiving the appropriate training (Horner & Carr, 1997). Designing an appropriate FBA can assist in implementing a successful intervention and treating a behavior problem in students with autism; however, a study indicated that special education teachers showed a lack of knowledge and skills needed to design an FBA (Machalicek et al., 2007).

Conducting Functional Behavior Assessment

There are multiple steps required to conduct FBA and data collection is an essential part of the whole process. The recommended steps needed to conduct an effective FBA are (1) identifying the interfering behaviors, (2) collecting baseline information, (3) developing a hypothesis statement, (4) testing the hypothesis, (5) and developing interventions (Neitzel & Bogin, 2008). FBA is considered a primary process to design an individual intervention.

Educators often conduct an FBA to better understand students' problem behavior, then design an appropriate intervention to treat it. However, the majority of educators exhibited a lack of knowledge and experience needed to conduct FBA (Benazzi, Horner & Good, 2006).

Teacher Preparation in FBA

Conducting FBA is considered a task with multiple steps and it requires school personnel to have specialized knowledge and experience to assess a problem behavior accurately. Benazzi, Horner, and Good (2006) suggested that the ideal behavioral support team should include persons who are: (a) familiar with the student and his or her problem behaviors; (b) have knowledge of available resources of information; and (c) have experience with ABA interventions and selection practices. Other studies reviewed by Machalicek et al. (2007) indicated that most teachers lack the knowledge needed to implement an FBA in the classroom and proceed with an effective intervention based on the assessment findings. It is suggested that researchers in ABA therapy involve teachers in the classroom directly to explore practices for training teachers to develop FBA plans with effective interventions and reduce the challenging behaviors of students with ASD (Machalicek et al., 2007). FBA is considered an essential tool that leads to discovering suitable practices for challenging behaviors (OSEP, 2000). FBA allows for analyzing the behavior and determining an appropriate intervention that manages problem behavior. Conducting FBA is complex; thus, the No Child Left Behind act (2002) required highly qualified special education teachers who are well-trained in conducting individualized assessments (Machalicek et al., 2007), and additional teachers' skills and experience are needed to better deal with students with ASD (Jang et al., 2011; Smith, 2001; Smyth et al., 2017).

Machalicek et al. (2007) found that special education teachers do not have the skills needed to design functional behavior assessment. Few studies have addressed FBA training for

teachers (Bethune & Wood, 2013; Machalicek et al., 2007). Moreover, provided training was ineffective and there was lack of consultation services provided for teachers during and after training (Bethune & Wood, 2013). Behavior skills training (BST) is one of the ABA therapy techniques that has been used to deliver professional training. BST is an evidence-based practice that can be used to provide professional training with positive and corrective feedback (Ward-Horner & Strumey, 2012). BST can be used to train educators to master a certain skill, such as developing an accurate functional behavior assessment.

Behavior Skills Training

Behavior Skills Training is a teaching protocol that consists of methods used together to create an effective technique to train individuals. BST is best described as "an effective training package that consists of instructions, modeling, rehearsal, and feedback" (Ward-Horner & Strumey, 2012, p. 75). The BST instructions element can be in verbal form, written form, or a combination of both in order to provide trainees with an explanation of how to complete the target skill to be taught. The BST modeling element allows demonstration of the target skill. Rehearsal is about providing the trainees with an opportunity to practice the target skill and then providing the trainees with feedback. After the trainees have been given the opportunity to practice with corrective feedback, they will perform the target skill independently, so they will be monitored with additional corrective feedback provided by the trainer until they are able to attain correct completion of the target skill. To ensure that trainees are implementing the target skills as originally trained, it is recommended to monitor the progress step by step by collecting data on trainees (Reddy, Fabiano & Jimerson, 2013). BST can be provided with an implementation checklist to monitor the trainees' progress and completion of each step of the

target behavior (Parsons, Rollyson, & Reid, 2013; Shayne & Miltenberger, 2013; Ward-Horner & Sturmey, 2012).

Behavior skills training and applied behavior analysis. BST is derived from the applied behavior analysis field and the analytical research, thus BST is a training package preferred by behavioral analysts. BST provides an analytic feature for trainees by providing them an objective demonstration during the modeling element. Also, BST offers an effective application of a target skill, which is produced strongly during multiple elements. Analytic and effective are two of the seven dimensions of ABA (Cooper, Heron & Heward, 2014; Morris, Smith & Altus, 2005). BST is based on multiple behavioral analytic practices, such as instructions, modeling, rehearsal, and feedback and these practices were used in the older applied behavior research and the current ABA therapy. BST meets the ABA therapy fundamental goal by collecting systematic data to assure that the practice is effective and resulting a change in a socially significant behavior (Cooper, Heron & Heward, 2014).

Therefore, BST becomes one of the best training packages in the field of education and it has been used in a variety of purposes (Parsons, Rollyson, & Reid, 2013; Shayne & Miltenberger, 2013; Ward-Horner & Sturmey, 2012). For example, BST was used to train practitioners who delivered another training for other groups of staff using BST (Parsons, Rollyson, & Reid, 2013), and results showed that BST was effective and participants acquired the target skills relevant to their job duties. BST was used to train staff (Parsons, Rollyson, & Reid, 2013), teachers (Ward-Horner & Sturmey, 2012), parents (Shayne & Miltenberger, 2013), and students (Furlow, 2017).

BST was used to teach a variety of skills including assessments, such as functional analysis (Ward-Horner & Sturmey, 2012). BST also was used to teach teachers and typically

developing peers how to deliver discrete trial teaching for students with autism (Furlow, 2017). Discrete trial teaching used within applied behavior analysis simplified and structured teaching steps (Smith, 2001). Results indicated that BST helped teachers and typically developing peers to deliver successful discrete-trial teaching for students with autism (Furlow, 2017). In addition, BST was used to train teachers to deliver mand training for their students with autism (Nigro-Bruzzi & Sturmey, 2010). Mand training is also an applied behavior analysis practice and it is a method used to make demands, request wanted items or activities or ask for information (Cooper, Heron & Heward, 2014). Mand training helped children with autism to communicate with others in more effective ways, such as asking for help and requesting desired objects. Nigro-Bruzzi and Sturmey (2010) acknowledged that BST helps teachers to provide successful mand training for their students with autism and they reported a significant increase in the teachers and students' performance, which indicated the target skill acquisition.

Overall, educators are suggested to implement effective behavioral interventions that are developed based on individualized functional behavior assessment. Some educators are not fully equipped to handle problem behaviors or develop FBA reports as a result of the lack of professional training and support available for teachers. Using BST to train educators can offer the necessary support. However, there is a lack of studies focused on using behavior skills training to train teachers to write or conduct a functional behavior assessment. Also, there is a lack of school personnel who are well trained to implement FBA correctly (Engstrom, 2013; Koegel et al., 2011; Machalicek et al., 2007; Van Acker et al., 2005). Special education teachers lack necessary professional support and consultation services (Alberto & Troutman, 1986). Moreover, there is a lack of research supporting professional needs of in-service special education teachers, who are teaching students with ASD in Saudi Arabia (Alotaibi, 2015).

Purpose of the Study

The purpose of this study is to examine the effects of Behavior Skills Training on educators' skills of developing an accurate Functional Behavior Assessment report for their students with Autism Spectrum Disorders. BST was provided for five in-service special education teachers who are teaching students with ASD in a daycare center, Saudi Arabia. BST was used to train the educators to address the following FBA steps for their reports for students with ASD (a) identifying a problem behavior, (b) collecting data using a structure A-B-C model, (c) developing a hypothesis statement about the function of the target behavior, and (d) developing an appropriate intervention.

Research questions. 1. What is the effect of behavior skills training on educators' skills in developing an accurate functional behavior assessment report for students with autism?
2. Do educators achieve the mastery level of 80% or higher on the FBA/BIP Technical Adequacy Tool for Evaluation (TATE) when revising their FBA reports at post-training?

CHAPTER III – METHOD

Setting

Saudi Arabia has passed special education laws similar to those in the United States, including the Education for all Handicapped Children Act (EHA) in 1975 and Individual with Disabilities Education Act (IDEA) in 1990, to protect the educational, medical, and other rights of individuals with disabilities. The Regulations of Special Education Programs and Institutes (RSEPI) that have developed since 2001 state that children's educational rights include a free and appropriate education, including providing special education services in a general education classroom. According to the law, students with disabilities should receive special education services, when possible, in public schools and in general education classrooms. Unfortunately, most students with disabilities in Saudi Arabia are receiving special education services in other isolated or separate buildings, which are called special education institutions or daycare centers (Alquraini, 2010). These institutions have a similar system compared to the regular school setting, but they provide more intensive special education services just for students with moderate to severe disabilities. These institutes allow only students with disabilities to enroll. Providing educational services for these individuals in a segregated setting prevents them from fully benefiting from interaction with typically developing peers in public schools and gaining other necessary social skills needed for healthy development (Alquraini, 2010). There are many factors that have delayed public schools in Saudi from moving forward to integrate students with disabilities in public school settings, such as lack of preparation among educators to deal with students with disabilities and lack of understanding about disabilities (Al-Faiz, 2006). Many

schools in Saudi Arabia are not prepared yet to receive students with disabilities and provide appropriate services that they need (Alquraini, 2010).

Due to the lack of schools in Saudi Arabia that provide special education services for students with disabilities, this study was conducted at a public daycare center in Riyadh, Saudi Arabia. The daycare center was established to provide special education services for students with autism and/or intellectual disabilities. The daycare center has two buildings, one for autism and one for intellectual disabilities. Each building has it's own students and staff. The daycare center serves approximately 50 students in the age range from 6-12. Each classroom contains four to six students with the similar disability severity. In the autism building, there are five autism classrooms and a special education teacher, who is specialized in autism, for each classroom. In the classroom, they follow a daily schedule including academic, social, and art activities. Students also receive special education-related services including speech and language pathology and occupational therapy, individually or as a group during the school day. The study was be implemented in the conference room inside the daycare center.

Participants

IRB approval obtained from the University of Oklahoma prior conducting the studies (see appendix K). A requirement letter was sent via email to the principle of a daycare center in the middle area of Saudi Arabia. The principle was directed to forward the email to special education teachers who were teaching students with autism. Five special education teachers who are teaching students with ASD in a daycare center volunteered to participate in the study. The participants met the following study criteria: (a) teaching students with ASD; (b) have students with ASD who display challenging behaviors in the classroom; (c) have completed at least three

FBA reports; and (d) voluntarily agreed to participate in the study and provided a signed consent form (see appendix L). Participants were assigned pseudonyms to assure their confidentiality.

Nouha. Nouha was a female 27-year-old special education teacher. She had experience teaching students with autism for over three years. Nouha was teaching five high-functioning students with autism in her classroom. She was struggling with multiple problem behaviors in the classroom, such as hitting, spitting, and leaving the classroom without permission.

Shahad. Shahad was a female 25-year-old special education teacher who had experience teaching early intervention for students with autism for two years. Shahad had four students with autism in her classroom and was facing mild to severe problem behaviors. Shahad described some of the problem behavior as aggressive and noncompliance behaviors.

Samar. Samar was a female 28-year-old special education teacher who had taught students with autism for approximately four years. She had four students with autism in her classroom. She explained her concerns about managing the students' behaviors, especially in the beginning of the school year.

Rana. Rana was a female 24-year-old special education teacher. She was teaching five students with autism in her classroom and she had two years teaching experience. Rana described her everyday struggles with students to complete the task and perform appropriate behaviors in the classroom.

Nada. Nada was a female 26-year-old special education teacher. She had experience over three years teaching students with autism. Nada had four students with low-functioning autism in

her classroom. Nada described most of the students' problem behaviors as aggressive behaviors, such as biting, hitting, and scratching.

Materials

A number of materials were used in this study including the Technical Adequacy Tool for Evaluation checklist (Iovannone et al., 2017), a FBA training presentation, simulated scenarios, an FBA/BST checklist, a training protocol, and an intervention integrity checklist. Copies of the materials were translated by the author into Arabic, the participants' native language, prior to conducting this study.

Technical adequacy tool for evaluation checklist. The FBA/BIP Technical Adequacy Tool for Evaluation (Iovannone et al., 2017; see appendix A) is a checklist including all components required to write an accurate FBA and a scoring guideline (see appendix B). The TATE consists of 18 items that measure the accuracy of core components in the FBA: data gathering, developing hypothesis, and behavior intervention plan development (Iovannone et al., 2017). There are multiple items falling under each component of the TATE checklist addressing specific information that needs to be included in an FBA report. The TATE checklist was utilized to assess the quality of the FBA reports that the educators completed. Permission to use and translate the TATE was obtained from the first author (Iovannone et al., 2017) prior to implementing this study (see appendix I). Each step of the FBA was assessed and then scored on a scale of 0-2 where "0" indicates *Not addressed*, "1" indicates *Partially addressed*, and "2" indicates *Completely addressed*. The fidelity standards of the TATE checklist indicate that teachers must obtain a score of 80% or greater to demonstrate mastery (Iovannone et al., 2017). In this study, the level of mastery required obtaining 80% or higher of writing FBA steps

correctly in order to be considered sufficiently mastering the target skill. The TATE obtained excellent reliability of 0.94 on the Intraclass Correlation Coefficient (ICC) (Iovannone et al., 2017).

FBA training presentation. The authors of the TATE (Iovannone & Romer, 2015) created training presentation slides to train school personnel in conducting a comprehensive functional behavior assessment. After receiving permission from the first author (Iovannone & Romer, 2015), the presentation slides were translated into Arabic to provide participants with an overview of functional behavior assessment and how to write a comprehensive FBA report based on the TATE criteria. The presentation aimed to provide participants with technical terms, steps, and forms needed to develop an accurate FBA report. The presentation also introduced the TATE checklist to the participants and addressed the requirements and evaluation criteria.

Simulated scenarios. The second part of training utilized simulated scenarios or sometimes called case studies to help participants master the target skills of writing a quality FBA report. Three criteria are recommended for developing a case study: (a) background information, (b) description of the situation or problem, and (c) description of facts that lead to the solution (Budgell, 2008). The experimenter considered these criteria with respect to the FBA required components (Horner & Carr, 1997) when selecting the simulated scenarios that were used in this study (see Appendix C). Seven simulated scenarios were selected from previous publications, four scenarios adapted from Carlson (2004), three other scenarios adapted from Scott, Desimone, Fowler, and Webb (2000). The experimenter modified the names, setting, and problem behaviors in the selected simulated scenarios in order to be relevant to the Saudi culture.

Simulated scenarios were used as training tasks where the participants had a chance to practice the target skills of writing an FBA report.

FBA and BST form. This is an author-designed form used to facilitate the training process and ensure the accuracy of training. The process of writing a functional behavioral assessment report was divided into four specific skills including (a) identifying the problem behavior, (b) collecting data using an A-B-C model, (c) developing a hypothesis statement about the function of the target behavior, and (d) developing an appropriate intervention. Each specific skill was taught using behavioral skills training (see appendix E). Rehearsal and feedback strategies were repeated until the educators performed all the specific skill steps correctly. Also, the educators had to perform 100% of correct responses in all the steps before moving to the following FBA specific skill. The experimenter used the FBA and BST form to record data during intervention.

Training protocol. The training protocol (see Appendix F), which outlines each FBA component, was provided to each educator to review during the training. The training protocol provided educators with instructions on every step required for developing a quality FBA report. The training protocol contained three major steps including (a) determining what information is required for data gathering, (b) developing a hypothesis, and (c) developing a behavior intervention plan. Educators were directed to use the training protocol as a reference during and after the FBA training.

Intervention integrity checklist. The intervention integrity checklist (see appendix G) was completed by an assistant during the training to assure that the training was implemented as planned. The intervention checklist included each step of the different parts of training, such as

the presentation, introduction, instructions, and modeling. For each step, the assistant recorded "+" if intervention plan step was implemented as designed or "–" if intervention plan step was not implemented as designed.

Dependent Variable and Measurement

Three sets of data were used to evaluate the target skill, to collect data for interobserver agreement (IOA), and intervention integrity. Major data collection in this study was on the FBA reports provided in the pre-training, training, and post-training phases of the study. The TATE checklist was utilized to assess the provided FBA reports throughout the study. Second, the FBA and BST form was used during the training to assess accuracy during delivery of training. Third, an assistant scored 2 out of the 3 (66%) FBAs during the pre-training and post-training phases, and scored 3 out of the 5 (60%) FBAs during training phase using the TATE checklist, for the purpose of determining inter-observer agreement. The assistant also collected data on intervention integrity.

The assistant was a school psychologist who volunteered to collect data as a second observer. She holds a bachelor's degree in psychology and has experience working in a psychological clinic where she assisted with conducting cognitive and behavioral assessments. The experimenter provided an appropriate training for the assistant to be familiarized with using the study forms, such as the TATE checklist and the intervention integrity form. Hypothetical scenarios and FBA reports were used to train the assistant in evaluating and using the TATE checklist. Also, the assistant was trained to use the intervention integrity checklist. The training took two hours in approximation. The experimenter had no authority over the assistant and the

Institutional Review Board (IRB) provided approval for the assistant to assist the data collection in this study (see appendix K).

Functional behavior assessment reports. Paper copies of the FBA reports were used as a permanent product. The experimenter assessed the FBA reports using the TATE checklist. All FBA reports that participants provided were written in the participants' native language, Arabic.

Correct responses in the TATE and trials. The percent of correct responses on the TATE checklist was calculated and documented for each FBA report and across the phases. Trials indicated the FBA reports. Three FBA reports were evaluated at pre-training. Five FBA reports were developed based on simulated scenarios and evaluated during the training phase. The original three FBA reports were revised by participants and re-scored at post-training. During the translation process, the final item of the TATE checklist, addressing development of an FBA crisis plan, was inadvertently left off of the translated form. Therefore, scores of 94% are considered the highest possible score that participants could obtain during the training phase

Training integrity. The experimenter utilized the FBA and BST form to collect data on the accuracy of training delivery. During the training phase, the assistant collected data using the intervention integrity checklist. To obtain the percentage of steps completed on the intervention integrity checklist, the total number of items on the checklist divided by the number of steps implemented correctly and then multiplied by 100.

Interobserver agreement. TATE checklist data were collected for the purpose of interobserver agreement. The assistant collected data in 2 out of the 3 (66%) FBAs during the pre-training and post-training phases, scored 3 out of the 5 (60%) FBAs during training phase,

and across participants. Data from the experimenter and the assistant were compared to calculate the IOA percentage.

Design

This study utilized an A-B design to evaluate the effect of behavioral skills training on educators' skill of developing an accurate functional behavior assessment for their students with autism spectrum disorder. A-B is a fundamental design in single subject research (SSR) and consists of A, the baseline phase, and B, the intervention phase (Kratochwill & Levin, 2010). This design is used to determine whether an effect exists between variables (Kratochwill & Levin, 2010). In this study, A-B design was used to assess the effect of an experimental variable (i.e., providing behavioral skills training to participants) on an outcome variable (i.e., completing a high-quality FBA report (Engel & Schutt, 2012; Gast & Ledford, 2014; Kratochwill & Levin, 2010).

Procedure and Data Collection

Pre-training. Participants did not receive training or feedback during the pre-training phase. Each participant submitted three FBA reports during pre-training. Participants were directed to turn in paper copies of their written FBA reports. The experimenter collected and evaluated the participants' FBA reports using the TATE checklist. Scores for each item ranged from 0 to 2, where 0 indicated that needed information was not addressed and 2 indicated the information was fully addressed. To calculate a percentage, the score obtained was multiplied by the total score 36 in the TATE checklist then divided by 100. Pre-training measurement for the

dependent variable was initiated simultaneously for the five participants. TATE scores were calculated and graphed for each participant and each FBA report and was documented as trials.

Training. There were two parts of training: the FBA training presentation and FBA practice using the simulated scenarios. The training took place in the conference room during the morning and evening and took four weeks to complete. The experimenter was the trainer. The experimenter has experience in teacher preparation (Almutlaq, 2015, 2016) and has provided workshops and training seminars for special education teachers in developing individualized assessment, such as Individual Education Plan (IEP). The experimenter has experience teaching students with autism and has worked as a special education consultant for a daycare center. In addition, the exterminator has studied the primary courses required for the Board Certified Behavior Analyst (BCBA) (BCBA, 2019) and applied behavior analysis.

FBA training presentation. The first part of the training was reviewing the PowerPoint presentation adapted from (Iovannone & Romer, 2015). The experimenter presented this training for the five participants as a group. It took approximately three hours to examine the slides that discussed developing an FBA report based on the TATE checklist requirements and to answer the educators' questions. Other materials required to develop an FBA report, such as the A-B-C model, were discussed during the presentation. At the end of the presentation, the experimenter used a simulated scenario to model for the participants how to identify and address the needed information in an FBA report. In fact, behavior skills training strategies were used to practice the simulated scenario. First, the experimenter provided instructions about how to address the required information in an FBA reports. Second, the experimenter modeled each FBA step to participants. Then, participants were asked to practice each FBA step while the experimenter

provided reinforcement and correct feedback during the practice to assure accuracy. The assistant was collecting data only for the purpose of the intervention integrity during the presentation.

FBA practice with simulated scenarios. The second part of the training also utilized behavioral skills training as a strategy to deliver training and develop an accurate FBA report (Reddy, Fabiano & Jimerson, 2013; Ward-Horner & Strumey, 2012). The experimenter provided the second part of training one-on-one to the participants. At the beginning of training, each participant was provided with the training protocol as a reference, copies of the A-B-C model, paper and a pencil. Next, the experimenter trained the participant in each target skill listed in the FBA and BST form (see Appendix E). For instance, the experimenter read the first scenario and provided verbal and written instructions about how to address the problem behavior as the first step in developing an FBA report. She then modeled for the participant how to determine the problem behavior using the information written in the scenario and then write an operational definition of the problem behavior. Then the experiment asked the participant to practice the same FBA step using a new simulated scenario. During practicing the FBA steps, the participant had to document the required information to complete the FBA report. Thus, the participants completed a FBA report after finishing each round of the FBA and BST form.

During each round of training and while the participant was practicing, the experimenter provided positive and corrective feedback to support the participant in performing the target FBA step correctly. Some of the FBA steps were repeated and clarified until the participant performed the target skills correctly. At the training phase, the participant had to perform each

step correctly before moving to the following FBA step or skill. The participant had to perform the four FBA specific skills listed in the FBA and BST form with 100% correct response.

Gast and Ledford (2014) recommended collecting three data points minimum to show a stable pattern during a single phase, such as the training phase. In this study, five data points were reported for each participant in the training phase and each point represented the score obtained in an FBA report. There was one demonstration round followed by five rounds of practicing the FBA steps on five different simulated scenarios. The first round of training was to model and collaborate with participant to practice defining the required information from the simulated scenario and reporting the needed information in the FBA report. The participant was then provided with a different simulated scenario in each round for practice. Therefore, six simulated scenarios were utilized in this study. The first scenario was used for the purpose of demonstration and the other five scenarios were used for the participant to practice independently with the experimenter monitoring.

Each Participant took approximately 12 hours to complete the second part of the training during six rounds. Each round of training took approximately two hours. The training rounds were delivered to participants independently during a three-week period.

At the end of each round, the experimenter assessed the FBA report using the TATE checklist. The assistant collected data on 3 out of the 5 (60%) of the FBA reports for each participant during the training phase.

Post-training and feedback. When participants had completed the training, they were directed to revise the original three FBA reports that they turned in during the pre-training phase. After participants revised the original FBAs, they were instructed to turn them in again. The experimenter received three revised FBA reports from each participant. The TATE checklist was used to evaluate the revised FBA reports during post-training.

Interobserver agreement. Interobserver agreement is a common procedure used in behavior analytic research, to define the believability level when comparing two sets of data collected on the same event (Gast & Ledford, 2014). In this study, the second observer was an assistant who received appropriate training in using the TATE and the intervention integrity checklists. The assistant independently scored 2 out of the 3 (66%) FBAs during the pre-training and post-training phases, scored 3 out of the 5 (60%) FBAs during training phase in the study. Then, by comparing data that were collected by the experimenter and the assistant, the proportion of agreement was calculated. For example, during assessing the FBA report '1', both the experimenter and the assistant scored the problem behavior as correctly addressed, an agreement was scored. If one of them such as, the experimenter scored the problem behavior as being not addressed, and the assistant scored as being correctly addressed, a disagreement was scored. If both of them scored the problem behavior as being not addressed, an agreement was also scored. The total number of agreements was divided by the total number of agreements plus disagreements, and multiplied by 100, thus yielding a percent agreement score. A simple template was created and used by the experimenter to record proportion of agreement (see table 1).

Validity

Intervention Integrity. Intervention integrity, sometimes called procedural fidelity, is a designed procedure to ensure the intervention is implemented as described and intended (Wolery, 1994). An intervention integrity checklist was designed for the current study to record the degree to which the intervention was implemented as described and intended. During training, the assistant recorded data on the intervention integrity checklist (see Appendix G). In addition, IOA data was collected on the intervention integrity.

The experimenter utilized the FBA and BST form to collect data on the accuracy of training delivery. To assure implementing the four FBA specific skills during the training phase and evaluating the educators' performance in each skill and step, the FBA and BST form was used. Each step was marked as correct "+" or incorrect "–" and the steps that did not require actions from educators were marked after the trainer asked the educator if she clearly understood the completed step. If the educator indicated uncertainty about a step, the experimenter repeated and clarified the step. The FBA and BST form helped to determine which steps listed in the form the educator had not completed correctly, so the experimenter could repeat those steps until the educator mastered all steps. The educator had to model 100% correct responses in all the steps before moving to the following FBA specific skill.

During the training phase, the assistant collected data using the intervention integrity checklist. To obtain the percentage of steps completed on the intervention integrity checklist, the total number of items on the checklist divided by the number of steps implemented correctly and then multiplied by 100.

Social Validity. Wolf (1978) discussed the need to develop a system that can measure the social significance of a procedure and that could be met by simply asking members of society. It was suggested that the validity of intervention could be evaluated using three elements: goals, social appropriateness, and the effects of the procedure. Participants are often the consumers and can judge the social validity of an intervention (Gast & Ledford, 2014). Immediately following training, participants were given a social validity questionnaire (see Appendix H).

Data Analysis

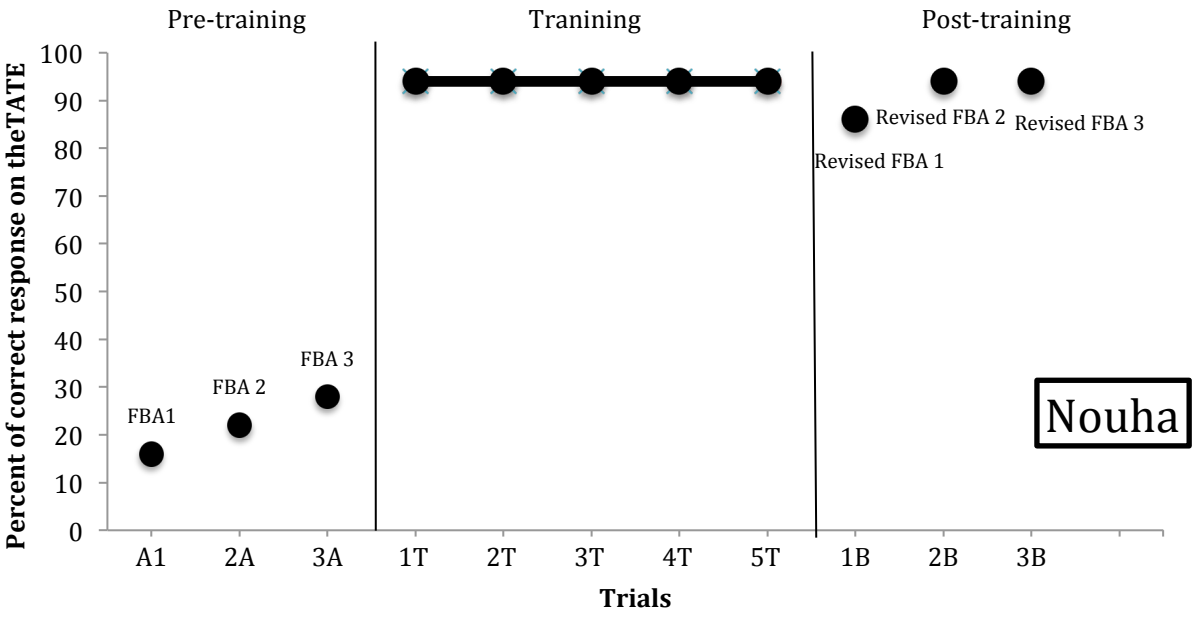
In the current study, visual analysis was used to determine the effect of delivering an FBA training using BST in improving the educators' skills to write accurate FBA reports for students with autism. It was hypothesized that participants acquisition of developing an FBA report would improve during the training and post-training. Furthermore, it was also hypothesized once the participants were trained to develop FBA reports and met mastery criterion in the training phase, generalization of the procedure would be reported when the participants were asked to revise their FBA reports provided in the baseline independently.

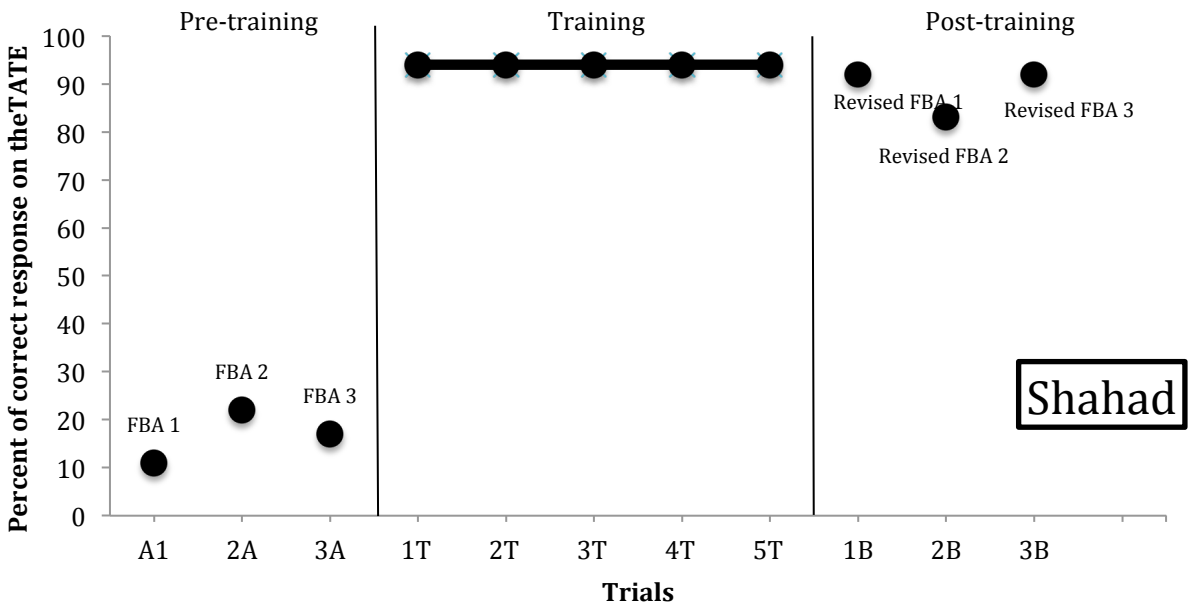
CHAPTER IV - RESULTS

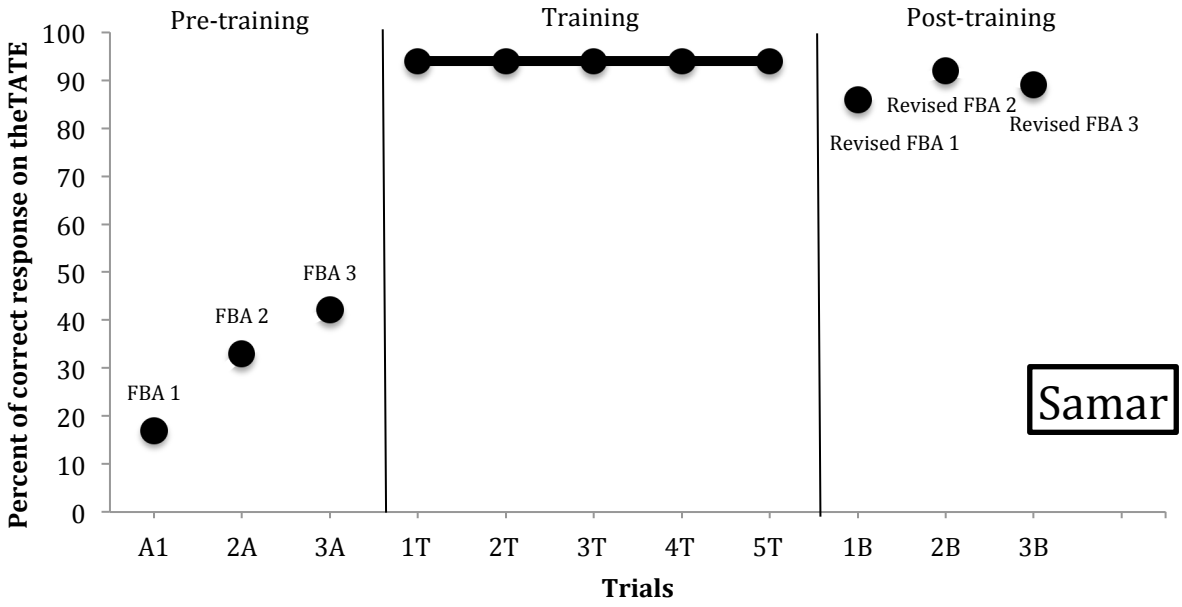
The primary research question addressed the effect of delivering training using BST on educators' acquisition of the target skill of developing an accurate FBA report for their students with autism. It was hypothesized that delivering training would improve the educators' skills to develop accurate FBA reports for their students with autism. In general, as shown in Figure 1, visual analysis indicated using the behavior skills training as a strategy to deliver FBA training had a large effect on the target skills of the educators.

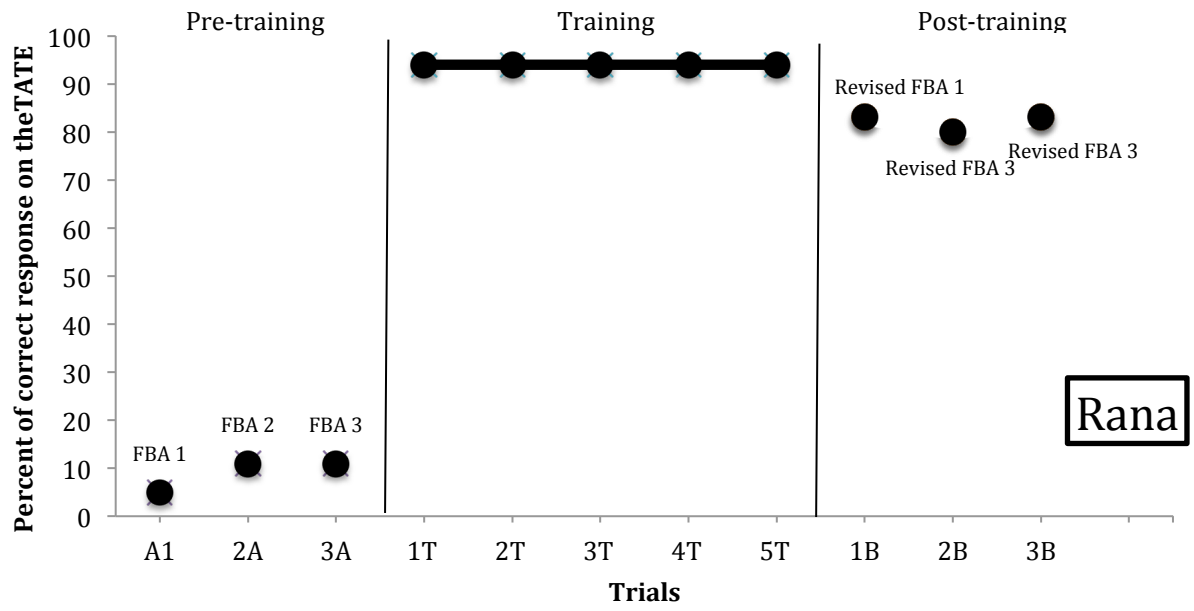
Figure 1

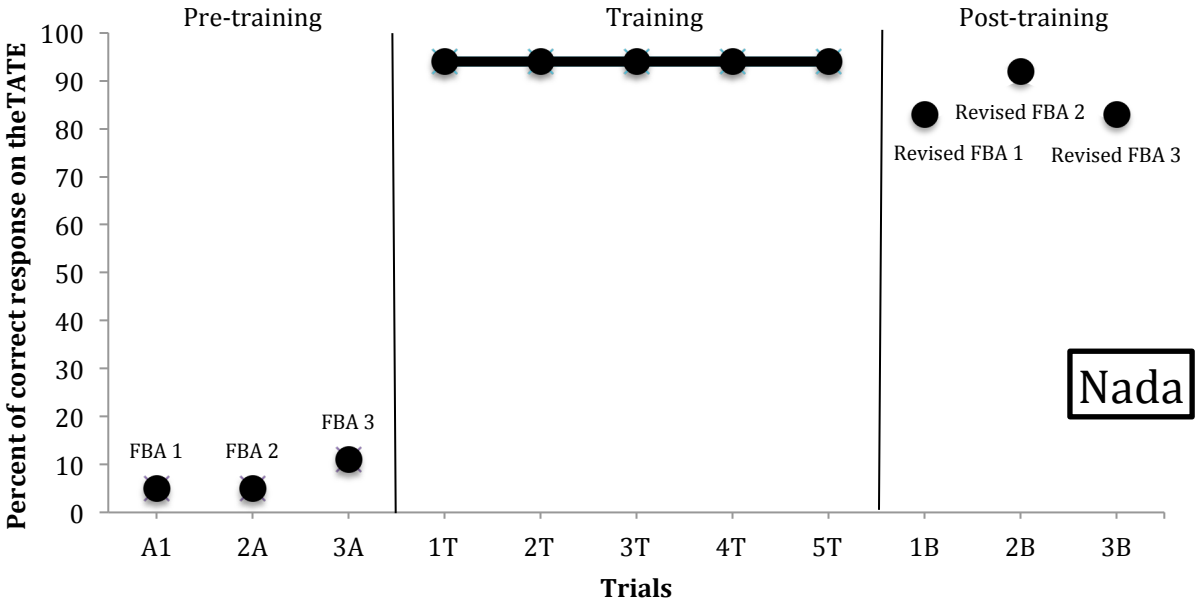
Percent of the Correct Response on the TATE Checklist and Across Participants




Pre-training
Training
Post-training
Percent of correct response on theTATE
100
90
80
70
60
50
40
30
20
10
0
FBA 1
FBA 2
FBA 3
Revised FBA 1
Revised FBA 2
Revised FBA 3
Shahad
A1
2A
3A
1T
2T
3T
4T
5T
1B
2B
3B
Trials


Pre-training
Training
Post-training
Percent of correct response on theTATE
100
90
80
70
60
50
40
30
20
10
0
FBA 1
FBA 2
FBA 3
Revised FBA 1
Revised FBA 2
Revised FBA 3
Samar
A1
2A
3A
1T
2T
3T
4T
5T
1B
2B
3B
Trials





Each educator showed low levels of information addressed in their FBA reports during the pre-training phase, which resulted in obtaining low scores on the TATE checklist. However, educators reached the mastery level during training and the post-training.

Looking at scores on the TATE checklist for individual FBA produced during the pre-training phase, Samar (31%) and Nouha (22%) obtained the highest average scores. Shahad (17%), Rana (9%) and Nada (7%) obtained lower scores (see Table 1).

Table 1

The Average Score on the TATE Checklist for Each Participant Across Phases

Phase	Nouha	Shahad	Samar	Rana	Nada
Pre-training	22	17	31	9	7
Training	94	94	94	94	94
Post-training	91	89	89	82	86

During training, all five educators obtained the highest possible score (i.e., 94%) on the TATE checklist during each of the five training rounds. Visual analysis displayed a high level and a stable line throughout the training phase and across participants (see Table 1). This indicates that educators' skills for developing FBA reports increased dramatically during the training phase compared to pre-training. This also indicates that using behavior skills training as a strategy to deliver training had succeeded in improving the educators' skills to develop an accurate FBA report.

The second research question addressed educators' ability to achieve the mastery level at post-training. In Figure 1, visual analysis indicated that scores remained high at post-training. Educators achieved the mastery level of 80% on each FBA revised at post-training. A stable line and a high level were detected across participants at post-training.

Looking at score averages across the three revised FBAs for each participant at post-training, Nouha (91%), Shahad (89%), and Samar (89%) obtained the highest average scores. Nada (86%) and Rana (82%) obtained lower scores, although, they reached the mastery level of 80% on the TATE (see Table 1). Across participants, a large increase in the level was noticed

compared to the pre-training, which indicated the accuracy of the responses in the revised FBA reports. All participants exceeded the mastery level of 80% on the TATE at post-training.

Interobserver Agreement

Interobserver agreement was calculated for 66%, 60%, and 66% of the FBA completed during the pre-training, training, and post-training phases, respectively (see Table 2). The assistant collected data on (66%) or two out of three FBA reports for each participant during pre and post-training. Also, three out of five or (60%) FBA reports were evaluated during training for the purpose of IOA. Individually, IOA averaged 97% for Nouha (range: 94 – 100%), 94% for Shahad (range: 88 – 100%), 97% for Samar and Rana (range: 94 – 100%), and 91% for Nada (range: 82 – 100%). The average of the agreement level across participants and phases was 96% and this level of interobserver agreement is deemed good by (Gast & Ledford, 2014).

Table 2

Interobserver Agreement Across Phases and Participants

Participant	Pre-training	Training	Post-training	**Average**
Nouha	94	100	100	**98**
Shahad	88	100	94	**94**
Samar	94	100	94	**96**
Rana	94	100	100	**98**
Nada	82	100	100	**94**
Average	**90**	**100**	**98**	**96**

Intervention Integrity

Comparing the two sets of data that the experimenter and the assistant collected during the intervention for the intervention integrity showed that all the planned intervention steps were conducted. IOA was conducted for intervention integrity during the first and second part of training; the IOA was 100% (see Table 2).

Social Validity

The average scores for each ranked question on the social validity questionnaire (appendix H) ranged from 4.7 to 5 (4 =Agree, 5 = Strongly Agree). The average score on each item of the questionnaire is reported in Table 3.

Table 3

The Average Score of Participants Responses on the Social Validity Questionnaire Items

Item on Social Validity Questionnaire	Mean score
“I will use the FBA strategies taught in this training with other student	4.2
“This training was beneficial”	4.8
“The information was easy to understand and presented clearly”	5
“The trainer took time to answer questions”	4.8
“The practices were helpful”	4.6
“I feel better prepared for managing child behavior after this training”	4.6
"I feel I am confident that I can write more accurate FBA in the future"	4.6
Average	4.6

For the open-ended questions in the social validity questionnaire, the comments were generally enthusiastic about the training. In general, a common theme found across participants for the question, “What part of training did you like the best?” was: “That I learned to identify the function of a problem behavior”. For the second question “What part of training did you like the least?”, most of the statements included “There was a little too much repetition,” and “There were many simulated scenarios that we had to complete". For the question, “What was the most important thing you learned?” a general statement across participants was “Developing FBA reports and using data collection materials, such as the A-B-C model".

CHAPTER V – DISCUSSION

The purpose of the current study was to examine the effect of delivering training, using behavior skill training as a strategy, on the development of accurate functional behavior assessments for students with autism by educators. The present study was designed as an AB experiment, with an initial pre-training phase and final post-training. Pre-training scores were generally low and post-training scores increased significantly, documenting the effectiveness of the training procedure. A positive relationship was demonstrated between behavior skills training and educators' ability to develop an accurate functional behavior assessment report for their students with autism. The results of the current study provide additional evidence that educators can be trained effectively to develop accurate FBA reports for their students with autism using BST as a strategy to deliver training. In addition, responses to the social integrity questionnaire indicate that participates judged the training to be useful to them as professional educators.

This study replicated the results of previous studies (Durand & Crimmons, 1988; Machalicek et al., 2007) that have demonstrated that training enhanced the educators' skills to develop an accurate FBA effectively in school settings. The results also provide evidence that behavior skills training is a beneficial procedure for training educators to implement functional analysis (Wallace et al., 2004). In addition, the results are consistent with previous studies that examined the utility of BST to train parents to conduct functional assessments and identify effective treatments (Shayne & Miltenberger, 2013), teach staff to promote correct responses of children with multiple disabilities (Nabeyama & Sturmey, 2010), teach staff to enhance the verbal behavior for children with autism (Seiverling, Pantelides, Ruiz&Sturmey, 2010), and train staff to conduct discrete-trial training (Sarokoff & Stormey, 2004). In the current study, participants were trained to develop an accurate FBA report and BST training was implemented

with a high-degree of integrity. The BST training entailed group and individual training sessions consisting of written and verbal instructions, as well as modeling, rehearsal, and corrective feedback on at least five simulated scenarios.

The results of the current study contribute to research indicating that educators can be trained to develop accurate functional behavior assessments (Ward-Horner & Sturmey, 2012) for students with autism (Parsons, Rollyson, & Reid, 2013; Shayne & Miltenberger, 2013) using BST. Previous studies have noted an urgent need to provide educators with training in functional behavioral assessment (McCahill, Healy, Lydon & Ramey, 2014) within their organizational context and with a high degree of procedural integrity (McKenney, Waldron & Conroy, 2013). The current study suggests BST can be used within the school context, and with a high degree of procedural fidelity to train educators in developing accurate FBA reports for students with autism whether in United States, Saudi Arabia or where there is a need to train school personnel.

Another way in which this study contributed to the literature was by showing that BST is an effective approach in a country, Saudi Arabia, where consultation services are not available on a regular basis to provide ongoing training and support. A special contribution of this study is that all materials and procedures were conducted in the participants' native language, Arabic, where no similar training using BST strategy has been conducted in this cultural context. ABA therapy strategies including BST are known among special education teachers in the United States. However, ABA professionals are still teaching educators about evidence- and scientific-based strategies, such as ABA therapy, in Saudi Arabia. In future studies, experimenters should consider allowing additional time to conduct BST training to avoid practicing many tasks in one training session and to provide the participants with adequate time for each task.

Limitations

Although the study provided positive results, a few limitations should be discussed. First, during the process of translating the study materials, one item of the TATE was accidentally left off of the translated checklist. Thus, there was no data collected on this particular item and it was impossible to obtain a full score on the TATE. Therefore, the highest score that could be reached on the TATE was 94% in this study. Also, the study was completed toward the end of the school year, thus no maintenance data points could be collected.

The study also entailed two threats to internal validity. First, the experimental design (A-B) offers limited control of internal validity. For example, history may be a threat to the internal validity of the current study, indicating that an event may occur during the experiment, which may not be related to planned procedural changes, and may influence the study outcome (Gast & Ledford, 2014). However, the documented changes during post-training provide some verification that the target behavior was acquired following the completion of the intervention. Second, because the experimenter was also the trainer there was a risk of bias in scoring of FBAs. Careful use of the TATE checklist to score FBAs, and a measure of inter-observer agreement were used to minimize this risk.

Future Research

The scope of this study was training educators on developing an accurate FBA report for students with autism. Future research should extend the study to include the accuracy of implementing the behavioral interventions in students with autism to assure the intervention effectiveness and reducing problem behaviors. In addition, future research is recommended to examine the challenges educators may face as they conduct FBA, especially in Saudi Arabia where schools lack professional support for special educators. Schools in Saudi Arabia have

adequate education funding and have assess to “What Works”, however, schools have difficulties implementing “What Works” (Fixsen, Blase, Naoom & Wallace, 2009) due to the lack of professional support. Therefore, future research should focus on providing in-service support for educators to assist in the teaching process and protect teachers from work challenges. In fact, facing difficulty dealing with students' problem behaviors may result in teacher burnout in some cases (Westling, 2010). Providing in-service support for teachers offers a comfortable environment for teachers and results in effective learning for students.

Conclusion

The current study demonstrated the positive relationship between behavioral skills training and developing accurate FBA reports by educators for students with autism. Similar to previous research, training educators resulted in an improvement in the acquisition of targeted skills. Furthermore, this study provides evidence that behavior skills training may be considered a beneficial training procedure to train professionals and students in a variety of other skills in school settings. Additional research is needed to determine the long-term effectiveness of implementing the behavioral interventions on reducing the problem behaviors on students with autism.

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Appendix A

Adopted from Iovannone, R., Wang, W., Sanchez, S., Kauk, N., and Kincaid, D. (2017). The FBA/BIP technical adequacy tool for evaluation (TATE): Improving practice.

FBA and BIP Technical Adequacy Tool for Evaluation (TATE): Scoring Form

School_____ Evaluator_____ Date of Review_____
Educator_____ Date of FBA_____ Date of BIP_____ Score_____

Component	Item	Scoring Guide	Score
Part I. FUNCTIONAL BEHAVIOR ASSESSMENT Data Gathering and Hypothesis Development	1. Input is collected from multiple people/sources to complete the functional behavior assessment. *Check all that apply.* Student interview Parent interview Teacher interview Rating Scales Direct Observations Team members participating listed Record Review Efficient FBA (team meeting, ERASE, etc.) Other _____	**0** = unable to determine **1** = 1 source/person or list of names with no detail **2** = two or more sources with supporting details	
	2. Problem behaviors are **identified** and **operationally defined**. (Easily observable and measurable). If more than one behavior is identified, it is clear which behaviors will be the focus of the FBA List problem behavior(s): _____	**0** = no problem behavior identified; **1** = behaviors are identified but definitions are ambiguous or subjective **2** = ALL identified behaviors are operationally defined.	
	3. Baseline data on the problem behaviors are collected and detailed or summarized. The data are in addition to office discipline referrals (ODR), in-school suspension (ISS), and/or out of school suspension (OSS) data. Target Behavior Method Time Frame Analysis	**0** = unable to determine **1** = data collected, but omits at least one of the essential details **2** = data collected, AND includes all 4 essential details	

Appendix B

Adopted from Iovannone, R., Wang, W., Sanchez, S., Kauk, N., and Kincaid, D. (2017). The FBA/BIP technical adequacy tool for evaluation (TATE): Improving practice.

Functional Behavior Assessment/Behavior Intervention Plan Technical Adequacy Evaluation Tool-(TATE) Scoring Guide

Component	0- Not addressed	1- Partially Addressed	2- Completely Addressed
Part 1: Functional Behavior Assessment (Data Gathering and Hypothesis Development)			
1. Input is collected from multiple people/sources to complete the functional behavior assessment. **Note: If the FBA/BIP indicates that a brief process was used in alignment with a problem-solving meeting (e.g., PTR-Brief, ERASE) and at least two people were participants in the meeting, score this item as a 2.*	Unable to determine if input was collected from multiple people/sources OR FBA indicates that input was only gathered from one source.	Vague indication that input was collected from more than one person/source; details missing **Example:** • Checklist or list of names of people who participated in the FBA but no explanation of how they participated.	Clear documentation that input was collected from more than one source with supporting details or the FBA/BIP used a brief process aligned with a problem-solving format (e.g., PTR-Brief, ERASE) and indicated that at least 2 people participated in the meeting. **Examples:** • Direct observation AND teacher/parent rating scales indicated or checked. • Statements such as, "The teacher(s) and the parent(s) were interviewed."
2. Problem behavior(s) are identified and operationally defined (easily observable and measurable). If more than one behavior is identified, it is clear which behavior(s) are/will be the focus of the FBA. **Note: There needs to be a link between the behavior identified as the problem, the definition, and the behavior listed in the hypothesis to get full credit for this item.*	• No problem behavior(s) are identified OR Problem behaviors are identified and may be defined, but none of the behaviors identified is the focus of the FBA.	• Behaviors are **identified** but definitions are ambiguous or subjective and do not provide enough information so that a person who is unfamiliar with the student would agree, upon observation, that the behavior identified has started and stopped. OR • Behavior definitions are identified and defined in "dead man" terminology (i.e., a dead person could perform the behaviors).OR • Problem behavior(s)	• ALL identified problem behaviors are operationally defined (observable and measurable; can be seen, heard, counted), AND • If more than one behavior is identified, it is clear which behavior(s) are the focus of the assessment **Note: If the FBA only identifies one problem behavior the problem behavior is clearly defined and is the focus of the FBA, score '2'.* **Note; There may not be a clear statement that indicates the behaviors that will be the focus of the FBA. If the antecedents, functions, and hypothesis in questions 4*

Appendix C
Case Studies Criteria and FBA Components

The case studies criteria and functional behavioral assessment components that were considered during the selection process

Case studies criteria	FBA Components
A. Background information	Including background information about the case, such as names, age, and diagnosis
B. Describing the situation or problem	Information contains a detailed description of a problem behavior, when, where, and how often this problem occurs.
C. Describing some facts that lead to the solution	Including information leads to identify the problem behavior triggers, and events occurred before the problem behavior, and what is happened to stop or prevent the case from displaying the problem behavior.

Appendix D

A-B-C Model

Date	Time	**A**ntecedent	**B**ehavior	**C**onsequence	Possible Function

Appendix E

Functional Behavior Assessment (FBA) and Behavioral Skills Training (BST) form

(FBA has divided into 4 specific skills and they taught to each participant using the BST effective four strategies)

Participant/educator:……..…….. Trainer.....
Observer….....…….. Date……..

Mark ✔ or ×

(a) **Identifying a problem behavior**-Steps		(c) **Developing an FBA hypothesis-**Steps	
1. Provide verbal instructions about how to identify the problem behavior and report an operational definition		1. Provide verbal instructions about how to identify a hypothesis or a summary statement that includes three essential components (i.e., antecedent events, behavior, function).	
2. Show the educator how to identify the problem behavior and report an operational definition using a simulated scenarios example #1		2. Show the educator how to identify and report a hypothesis or a summary statement that includes three essential components (i.e., antecedent events, behavior, function) using a case study example #1	
3. The educator demonstrates by identifying the problem behavior and reporting operational definition using a simulated scenarios example #2		3. The educator demonstrates by identifying and reporting a hypothesis or a summary statement that includes three essential components (i.e., antecedent events, behavior, function) using a simulated scenarios example #2	
4. Provide educator with positive and corrective feedback during step 3 (ex. provide praise for the steps exhibited by the educator and corrective feedback for any step that were not implemented or implemented incorrectly)		4. Provide educator with positive and corrective feedback during step 3 (ex. provide praise for the steps exhibited by the educator and corrective feedback for any step that were not implemented or implemented incorrectly)	
5. Repetition of rehearsal and feedback (if necessary)		5. Repetition of rehearsal and feedback (if necessary)	
% of correct steps		% of correct steps	
(b) **Collecting data using a structure A-B-C model-**Steps		(d) **Developing an appropriate BIP**-Steps	
1. Provide verbal instructions about how to collect detailed data about the behavior setting events (antecedent), antecedent events (behavior), and		1. Provide verbal instructions about developing BIP by referencing FBA hypothesis, addressing a minimum of one strategy to prevent the behavior from	

consequences (how others respond immediately after problem behavior occurs)		occurring, addressing a minimum of one strategy to teach a replacement behavior, and addressing a minimum of one strategy reinforce the replacement behavior, and addressing a minimum of one strategy to minimize reinforcement of the problem behavior	
2. Show the educator how to collect and report in the A-B-C form detailed data about the behavior setting events (antecedent), antecedent events (behavior), and consequences (how others respond immediately after problem behavior occurs) using a simulated scenario example #1		2. Show the educator how to develop BIP by referencing FBA hypothesis, addressing a minimum of one strategy to prevent the behavior from occurring, addressing a minimum of one strategy to teach a replacement behavior, and addressing a minimum of one strategy reinforce the replacement behavior, and addressing a minimum of one strategy to minimize reinforcement of the problem behavior (using a simulated scenario example #1)	
3. The educator demonstrates by collecting and reporting in the A-B-C form detailed data about the behavior setting events (antecedent), antecedent events (behavior), and consequences (how others respond immediately after problem behavior occurs) using a simulated scenario example #2		3. The educator demonstrates by developing BIP by referencing FBA hypothesis, addressing a minimum of one strategy to prevent the behavior from occurring, addressing a minimum of one strategy to teach a replacement behavior, and addressing a minimum of one strategy reinforce the replacement behavior, and addressing a minimum of one strategy to minimize reinforcement of the problem behavior (using a simulated scenario example #2)	
4. Provide educator with positive and corrective feedback during step 3 (ex. provide praise for the steps exhibited by the educator and corrective feedback for any step that were not implemented or implemented incorrectly)		Provide educator with positive and corrective feedback during step 3 (ex. provide praise for the steps exhibited by the educator and corrective feedback for any step that were not implemented or implemented incorrectly)	
5. Repetition of rehearsal and feedback (if necessary)		5. Repetition of rehearsal and feedback (if necessary)	
% of correct steps		% of correct steps	

Appendix F

Training Protocol

Note: Educators can use this protocol as a reference.

Steps	Status
Data gathering: Defining & Understanding Behavior	
1. Collect input from multiple people/sources to complete the functional behavior assessment	
2. Identify and operationally define the problem behaviors.	
Developing hypothesis: Investigating Behavior	
1. Collect baseline data on the problem behaviors and write details or summary	
2. Identify setting events and describe the contingency to the problem behavior	
3. Identify and specify antecedent events that precede and predict the occurrence of problem behavior	
4. Identify and specify antecedent events in which problem behavior is least likely to occur	
5. Identify consequences	
6. Identify a hypothesis or a summary statement that includes three essential components (i.e., antecedent events, behavior, function) is present and linked to the antecedent events and consequences listed in the FBA	
7. Identify the function of behavior and link it to FBA data	
Developing behavior intervention plan (BIP)	
1. Develop an appropriate behavior plan	
2. Develop a hypothesis from the FBA and include or reference it on the behavior plan	
3. Address a minimum of one strategy that modifies antecedent events	
4. Identify a minimum of one socially valid replacement behavior that will be taught to the student that is linked it to FBA hypothesis, and described in enough detail for implementation.	
5. Identify a minimum of one strategy that will reinforce the replacement behavior, provide the same outcome/function, and describe it in enough detail to implement.	
6. Identify a minimum of one strategy that eliminates the maintaining consequences in the hypothesis and describe it with sufficient detail to implement (i.e., changes the way others respond to problem behavior).	
7. Consider a need for a crisis plan.	
8. Include a specific plan for collecting monitoring data on both the problem and replacement behaviors following the implementation of the behavior plan.	
9. Include a specific plan for collecting fidelity data on BIP implementation.	

Appendix G

Intervention Integrity Checklist

Part		Steps	Performance			
First part	**The presentation**	1. The trainer introduces herself and reviews participant's rights in research and study details				
		2. The trainer provides the educator with the training protocol				
		3. The trainer provides the educator an overview of the five main components in FBA and answers the educator questions				
		4. The trainer demonstrates writing an FBA report using one simulated scenario				
Second part	**Introduction**	1. The trainer reviews the BST strategies				
		2. The trainer reviews the FBA and BST form				
	Instructions	1. The trainer verbally reviews instructions (for skill a, b, c, and d)				
	Modeling	2. The trainer models the target step on the FBA and BST form using a simulated scenario				
	Rehearsal	3. The educator demonstrates the target step in the FBA and BST form using a different simulated scenario (for skill a, b, c, and d)				
	Feedback	5. The trainer provides feedback during the training to reinforce the educator's attempts				
	Repeating	5. The trainer provides corrective feedback after the educator's attempts				
	Social validity questionnaire	The trainer provides the educator with the social validity questionnaire				
	Percentage of Intervention Steps Implemented Correctly					

Scoring Codes:
Record + if intervention plan step was implemented as designed
Record – if interventions plan step was not implemented as designed
Record NA for non-applicable steps at the time of observation

Appendix H

Social Validity Questionnaire

1. What part of training did you like the best?

2. What part of training did you like the least?

3. What was the most important thing you learned?

Items	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I will use the FBA strategies taught in this training with other students.	**1**	**2**	**3**	**4**	**5**
This training was beneficial.	**1**	**2**	**3**	**4**	**5**
The information was easy to understand and presented clearly.	**1**	**2**	**3**	**4**	**5**
The trainer took time to answer questions.	**1**	**2**	**3**	**4**	**5**
The practices were helpful.	**1**	**2**	**3**	**4**	**5**
I feel better prepared for managing child behavior after this training	**1**	**2**	**3**	**4**	**5**
I feel I am confident that I can write more accurate FBA in the future.	**1**	**2**	**3**	**4**	**5**

Appendix I

The First Author Permission

Re: Requesting permission,

Iovannone, Rose <iovannone@usf.edu>

Wed 1/16/2019 12:43 PM

To: Almutlaq, Hajar <Hajar.Almutlaq-1@ou.edu>;

Hello,

You have my permission, and I'm so excited about your manuscript. Good luck!

Rose Iovannone, Ph.D., BCBA-D
Director/Co-PI
Interdisciplinary Center for Evaluation and Intervention (ICEI)
Supporting Students with Autism Accessing General Education (SAAGE)
University of South Florida
Florida Center for Inclusive Communities
Department of Child and Family Studies
College of Behavioral and Community Sciences

Mail Point MHC 2113A
Office Location MHC 2206
13301 Bruce B. Downs Blvd.
Tampa, FL 33612-3807

Appendix J

Permission letters



المملكة العربية السعودية
عـــزم
جمعية ذوي الإعاقة ببريدة
مسجلة بوزارة الشؤون الاجتماعية برقم (٥٦٣)

بسم الله الرحمن الرحيم

عزم
AZEM

الرقم : ٢١٨
التاريخ : ١٤٣٠/٥/٢
المرفقات :
الموضوع : الموافقة على تطبيق دراسة

إلى من يهمه الأمر ...

السلام عليكم ورحمة الله وبركاته ،، وبعد:

إشارة إلى خطاب الباحثة هاجر عبدالرحمن المطلق "عضو هيئة التدريس بقسم التربية الخاصة بجامعة المجمعة" بخصوص تطبيق الدراسة التجريبية التحليلية الخاصة بتطوير معلمات التربية الخاصة على تطوير استمارات تقييم السلوك الوظيفي للأطفال ذوي التوحد

عليه نحيطكم بأنه لامانع لدينا من تطبيق البحث خلال ستة أسابيع في مركز رعاية للرعاية النهارية وتأهيل أطفال التوحد التابع لجمعية ذوي الإعاقة ببريدة "عزم" ويشمل ذلك جمع البيانات اللازمة لاستكمال البحث ، وتدريب المعلمات ، ومتابعة أدائهن بعد التدريب ، آملين أن يساهم ذلك في الارتقاء بالخدمات المقدمة لأطفال التوحد.

وفقكم الله وسدد خطاكم

المشرف العام
عبدالعزيز بن حمد الصعب

القصيم - بريدة - تقاطع طريق الملك سلمان مع طريق عمر بن الخطاب - هاتف : ٠١٦ ٣٨٥٠١٢٠ - جوال : ٠٥٥٣٢٦٢٤٢٤
Qassim - Buraydah - Road intersection King Salman with Omar ibn Al-Khatab - Telephone : 016 3850120 - Mobile : 0553262424
Email : scrdisa@gmail.com scrdisa Web : www.cdb.org.sa

Appendix K

IRB Approval Letter

The UNIVERSITY of OKLAHOMA

Institutional Review Board for the Protection of Human Subjects

Approval of Initial Submission – Exempt from IRB Review – AP01

Date: March 12, 2019 **IRB#:** 10371

Principal Investigator: Hajar A Almutlaq **Approval Date:** 03/12/2019

Exempt Category: 2 & 3

Study Title: THE EFFECT OF BEHAVIOR SKILLS TRAINING IN IMPROVING EDUCATORS SKILLS TO WRITE AN ACCURATE FUNCTIONAL BEHAVIORAL ASSESSMENT

On behalf of the Institutional Review Board (IRB), I have reviewed the above-referenced research study and determined that it meets the criteria for exemption from IRB review. To view the documents approved for this submission, open this study from the *My Studies* option, go to *Submission History*, go to *Completed Submissions* tab and then click the *Details* icon.

As principal investigator of this research study, you are responsible to:

- Conduct the research study in a manner consistent with the requirements of the IRB and federal regulations 45 CFR 46.
- Request approval from the IRB prior to implementing any/all modifications as changes could affect the exempt status determination.
- Maintain accurate and complete study records for evaluation by the HRPP Quality Improvement Program and, if applicable, inspection by regulatory agencies and/or the study sponsor.
- Notify the IRB at the completion of the project.

If you have questions about this notification or using iRIS, contact the IRB @ 405-325-8110 or irb@ou.edu.

Cordially,



Ioana Cionea, Ph.D.
Vice Chair, Institutional Review Board

Appendix L

Informed Consent forms in English and Arabic Languages

Consent to Participate in Research at the University of Oklahoma

You are invited to participate in research about the Effect of Behavior Skills Training in Improving Educators Skills to write an accurate Functional Behavior Assessment (FBA).

If you agree to participate, you will receive a training on developing and writing the functional behavior assessment for a student(s) with autism who engages in behavior problem in your classroom. You will be mentored to ensure that you acquire the skills need after the training.

You will be asked to provide minimum of three hypothetical FBAs to use during the training as practice assignments. During the training, the researcher will provide other hypothetical FBAs to use as practice assessments and after the training you will be asked to fill out a brief survey to evaluate the quality of training. Next, you will revise your the hypothetical FBAs. The study will take approximately 10 hours and it will be implemented during multiple days.

There are no risks and participants will benefit from the training in this study.

Your participation is voluntary and your responses will be: anonymous.

After removing all identifiers, we might share your data with other researchers or use it in future research without obtaining additional consent from you.

Even if you choose to participate now, you may stop participating at any time and for any reason.

If you have questions about this research, please contact:
Hajar Almutlaq
Ph.D. candidate, College of Education
University of Oklahoma
Hajar.Almutlaq-1@ou.edu
(405)397-6862

You can also contact the University of Oklahoma – Norman Campus Institutional Review Board at 405-325-8110 or irb@ou.edu with questions, concerns or complaints about your rights as a research participant, or if you don't want to talk to the researcher.

Are you 18 years of age or older? ___ Yes ___ No (If no, cannot participate)

IRB NUMBER: 10371
IRB APPROVAL DATE: 03/12/2019

Are you meeting the following criteria: (a) teaching students with ASD; (b) have students with ASD who display challenging behaviors in the classroom; (c) have never received any formal training in applied behavior analysis or FBA; and (d) voluntarily agreed to participate in the study and provided a signed consent form.

___ Yes ___ No (If no–cannot participate)

I agree to participate in this research. You will be given a copy of this document for your records.

_____	_____
Signature of Participant	Date
_____	_____
Signature of Researcher Obtaining Consent	Date



IRB NUMBER: 10371
IRB APPROVAL DATE: 03/12/2019

نت مدعو للمشاركة في بحث حول تأثير التدريب على مهارات السلوك في تحسين مهارات المعلمين لكتابة تقييم سلوك وظيفي دقيق (FBA).

إذا وافقت على المشاركة ، ستتلقى تدريبًا على تطوير وكتابة تقييم السلوك الوظيفي للطالب (التلاميذ) الذين يعانون من التوحد الذين يشاركون في مشكلة السلوك في غرفة الصف. سيتم إرشادك لضمان حصولك على المهارات اللازمة بعد التدريب.

سيُطلب منك تقديم الحد الأدنى من ثلاث منظمات افتراضية في **FBA** لاستخدامها أثناء التدريب كمهام ممارسة. خلال التدريب ، سيقدم الباحث فبألسس إدارة الشؤون المالية الافتراضية الأخرى لاستخدامها كتقديرات الممارسة وبعد التدريب سيطلب منك ملء استبيان موجز لتقييم جودة التدريب. المقبل ، سوف تقوم بمراجعة **FBAs** افتراضية. سوف تستغرق الدراسة حوالي 10 ساعات وسيتم تنفيذها خلال أيام متعددة.

.لا توجد مخاطر وسوف يستفيد المشاركون من التدريب في هذه الدراسة

.مشاركتك تطوعية وستكون ردودك: مجهول

بعد إزالة جميع المعرّفات ، قد نشارك بياناتك مع باحثين آخرين أو نستخدمها في الأبحاث المستقبلية دون الحصول على موافقة إضافية منك.

.حتى إذا اخترت المشاركة الآن ، يمكنك التوقف عن المشاركة في أي وقت ولأي سبب

:إذا كانت لديك أسئلة حول هذا البحث ، فيرجى الاتصال بـ
هاجر المطلق
شهادة الدكتوراة مرشح ، كلية التربية
جامعة أوكلاهوما
Hajar.Almutlaq-1@ou.edu
(405)397-6862

يمكنك أيضًا الاتصال بمجلس المراجعة المؤسسي لجامعة أوكلاهوما - نورمان الحرم الجامعي على الرقم 405-325-8110 أو irb@ou.edu مع أسئلة أو مخاوف أو شكاوى حول حقوقك كمشارك في البحث ، أو إذا كنت لا تريد التحدث إلى الباحث.

(هل عمرك 18 سنة أو أكبر؟ ____ نعم ____ لا (إذا كان لا يمكن - لا يمكن المشاركة
هل تستوفي المعايير التالية:
أ) تدريس الطلاب المصابين بالتوحد ؛)
(ب) اطلب من الطلاب الذين لديهم ASD عرض السلوكيات الصعبة في الفصل الدراسي ؛
(ج) لم يتلق أي تدريب رسمي في تحليل السلوك التطبيقي أو FBA ؛
(د) استكملت ما لا يقل عن ثلاثة من FBAs الطلاب الحاليين
(هـ) وافق طواعية على المشاركة في الدراسة وقدمت استمارة موافقة موقعة.

(نعم ____ لا (إذا كان لا - لا يمكن المشاركة ____

.أوافق على المشاركة في هذا البحث. ستحصل على نسخة من هذا المستند في سجلاتك

ـــــــــ نعم يمكنني المشاركة

IRB NUMBER: 10371
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_____ لا, لا يمكنني المشاركة

أوافق على المشاركة في هذا البحث.

التوقيع المشارك

توقيع الباحث



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