

EFFECTS OF A SELF-DETERMINATION INTERVENTION ON STUDENTS WITH  
EMOTIONAL DISTURBANCE

by

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## ABSTRACT

Students with emotional disturbance experience many problems that affect their academic and social success in the school environment, including academic performance, relationships with teachers and peers, and a lack of engagement in the school community (Anderson, Kutash, & Duchnowski, 2001; Villarreal, 2015). Currently, a handful of interventions exist to assist students with behavioral challenges. Many of these interventions aim to increase academic achievement, or to curb disruptive behavior in students with ED so that they can achieve improved school success (Algozzine, Wang, & Violette, 2011). Research with students with emotional disabilities also suggests that improving their self-determination skills and providing opportunities for self-determination are also effective in improving school success (Green, Mays, & Jolivet, 2011; Sebag, 2010; Skerbetz & Kostewicz, 2013). While some research has been conducted with middle and high school students with ED, fewer research studies exist on strategies that promote self-determination in elementary students.

This purpose of this study was to explore the effect of a choice-making intervention on the academic engagement and disruptive behaviors of elementary students with ED. Findings revealed a functional relationship between the offering of choice and the students' disruptive behaviors and academic engagement. Students also increased in their work completion and social interactions with one another and with the adults. Social validity data indicated that the teacher viewed the intervention as being feasible and valuable in his classroom.

## **Chapter 1: Introduction & Statement of the Problem**

Students with emotional disturbance experience many problems that affect their academic and social success in the school environment (Anderson, Kutash, & Duchnowski, 2001; Villarreal, 2015; Wagner, Kutash, Duchnowski, Epstein, & Sumi, 2005). Currently, a handful of interventions exist to assist students with behavioral challenges. Many of these interventions aim to increase academic achievement, or to curb disruptive behavior in students with ED so that they can achieve improved school success (Algozzine, Wang, & Violette, 2011). Research with students with emotional disabilities suggests that incorporating opportunities for self-determination is also effective in improving school success (Carter, Lane, Pierson, & Glaeser, 2006; Dunlap, dePerczel, Clarke, Wilson, Wright, White, & Gomez, 1994; Green, Mays, & Jolivette, 2011; Jolivette, Wehby, Canale, & Massey, 2001; King-Sears & Bonfils, 1999; Ramsey, Jolivette, Patterson, & Kennedy, 2010; Sebag, 2010; Skerbetz & Kostewicz, 2013). While some research has been conducted with middle and high school students with ED, little exists on the self-determination potential of younger students. It is possible that providing these opportunities to build self-determination to elementary aged students will have lasting effects throughout their school career (Palmer & Wehmeyer, 2003). Thus, this project seeks to examine the effectiveness of a choice-making intervention on the academic engagement and disruptive behaviors of elementary-aged students classified for special education as ED.

### **Students with Emotional Disabilities**

Emotional Disturbance is characterized by a range of behavioral and social problems that adversely affect a child's performance in school. In order to qualify for an

emotional disability under the Individuals with Disabilities Education Act (2004), a child must display an inability to learn that cannot be explained by intellectual, sensory, or health factors, an inability to build or maintain satisfactory interpersonal relationships with peers and teachers, inappropriate behaviors or feelings in normal conditions, a general mood of unhappiness or depression, or a tendency to develop physical symptoms associated with personal or school problems. These symptoms must persist for a “long period of time” and “to a marked degree” and must have an adverse effect on the child’s school performance (IDEA, 2004). According to the United States Department of Education (2016), over 350,000 students with Emotional Disturbance (ED) were served through the Individuals with Disabilities Act (IDEA) in 2014. Currently, students with ED make up about 6% of all students with disabilities and account for less than 1% of all school children in the United States (Gage, 2013). In studies conducted with students with ED, it is estimated that about 80% of students with ED are boys, while only 20% are girls (Reid, Gonzalez, Nordness, Troup, & Epstein, 2004). Children who are diagnosed with emotional disturbance face many obstacles to their success in school.

In order to be eligible for special education services, children with emotional or behavioral problems must demonstrate that their ability to learn is compromised by their emotional challenges (IDEA, 2004). In overall academic competence, children with emotional disturbance have been found to perform one standard deviation below the average for children in their grade levels in all academic areas (Algozzine et al., 2010), or one to two years below grade level, with children with ED performing below their peers without ED in 89 percent of comparisons (Reid, Gonzalez, Nordness, Trout, & Epstein, 2004). In addition, children with emotional disturbance are also more likely to perform

poorly in academic tasks than are children with other disabilities or with no disabilities. For example, students with emotional disturbance are more likely than their peers to drop out of high school and most students have failed one or more courses throughout their educational career (Wagner, 1995). Not surprisingly, students with ED are more likely to be rated as having low academic ability by their general education teachers (Wagner, 1995).

### **Struggles and Outcomes for Students with ED**

Students with emotional disturbance are also less likely to have positive relationships with their teachers or to be engaged in the school's culture. In a study of twelfth grade students, teachers were asked to assess each student's ability to get along with his or her classmates, follow directions, and to control his or her behavior in class. In general education classes, students with emotional disturbance were more likely to be rated low on all factors. Interestingly, in special education classes, students with emotional disturbance were rated no lower than students with other disabilities (Wagner, 1995). Some explanations for the low ratings from teachers include the fact that students with emotional disturbance are more likely to be behaviorally disruptive and non-compliant, which can arouse negative feelings in both their teachers and their classmates (Reidet al., 2004). Conversely, teachers are more likely to rate well-behaved students high on academic expectations (Algozzine et al., 2010). Furthermore, students with emotional disturbance are less likely than their peers to show engagement in school (e.g., belonging to clubs or social groups) and are more likely to have higher rates of absenteeism than students without emotional disturbance (Wagner, 1995).

## **Self-Determination in Students with ED**

Recent research has focused on the self-determination skills of students with ED (Carter, Trainor, Owens, Sweden, & Sun, 2010). Self-determined behaviors refer to “volitional actions that enable one to act as the primary causal agent in one’s life and to maintain or improve one’s quality of life” (Wehmeyer, 2005, p. 117). In other words, people who exhibit self-determined behaviors have the skills and abilities to direct their lives in functional and autonomous ways; for example, to set goals and to work to achieve those goals, accessing necessary and appropriate resources along the way. According to several studies, students with ED lack not only the self-determination skills that are often seen in students with LD or in the general population (Seo et al., 2015), but they also lack the opportunities to acquire those skills, both at school and at home (Carter et al., 2006; Carter et al., 2010; Grigal, Neubert, Moon, & Graham, 2003; Palmer, Summers, Brotherson, Erwin...Haines, 2012; Roberts, Ju, & Zhang, 2016; Shogren et al., 2007). Specifically, students with ED demonstrated less autonomy than their LD peers (Seo et al., 2015), they lack knowledge of self-determination and the behaviors associated with it, and confidence in the efficacy of their own behaviors and ability to be self-determined (Carter et al., 2006). According to Carter and colleagues (2006), the lack of opportunities to develop self-determination skills possibly contributes to the low academic achievement and high dropout rates that accompany a diagnosis of ED in many middle and high school students. Therefore, the authors suggest that students with ED be given opportunities to develop self-determination skills, in the form of choice-making, self-advocacy, self-awareness, and the ability to set and track their goals.

## **Interventions for Students with ED**

Students with ED struggle significantly in school and to a higher degree than do students with other disabilities (Anderson, et al., 2001; Nelson, Benner, Lane, & Smith, 2004). Many of the available interventions for students are targeted towards raising the academic achievement of students with ED. For example, Trout and colleagues (2003) found that providing direct instruction and fluency-building reading instruction to kindergarten students with ED increased their reading skills in seven months, so effectively that some of the students surpassed their non-disabled peers in their reading ability. This intervention is important for two reasons: (1) it demonstrates that interventions are effective with students with ED when administered with fidelity, and (2) that early intervention is key.

In order to target writing skills, Regan, Mastropieri, & Scruggs (2005) implemented an intervention of dialogue journaling with sixth grade students with ED. The purpose of the intervention was to set up an ongoing written dialogue between the students and teacher that was focused on social and emotional growth, which would in turn improve the students' attention, writing fluency, and overall writing quality. Although students were asked to keep their topics within the realm of social skills and emotional health, they were given the freedom to choose their topics of dialogue. The students were not graded on their writing. Outcome data demonstrated that all study participants increased their attention to task during the intervention and that four out of the five participants also demonstrated improvements in their overall writing quality and of writing.

*Read to a Dog* is a less traditional intervention that has been effective in increasing the on-task behavior and reading skills of students with emotional disturbance. This program has been implemented in community gathering places, such as libraries, and was recently examined in an elementary school setting with students with emotional disturbance (Bassette & Taber-Doughty, 2013). Three students spent a half an hour of daily reading to a specially-trained service dog. Among students with emotional disturbance, the authors found that students increased their on-task behavior while reading to the dogs, and that they developed a sense of pride after reading the challenging material that had been selected for them (Bassette & Taber-Doughty, 2013).

Disruptive behavior is also often targeted for intervention for students with ED. Self-monitoring through the use of video modeling has demonstrated success with students with ED. Blood and colleagues (2011) studied the effects of video modeling and self-monitoring on student on-task behavior, for a student who had difficulties with impulse control, peer relationships, and disruptive behaviors. The student watched a video of his peers demonstrating the appropriate behavior prior to beginning small group math instruction. He then recorded whether he was on task or off task every two minutes. The authors found that although video modeling was beneficial to the student, it was more effective when accompanied by an opportunity for self-monitoring, whereby the student was taught which behavior to identify in the self-monitoring worksheet, and to record examples of his own use of both the target and replacement behaviors. Student outcomes indicated a reduction in disruptive behaviors and an increase in on-task behaviors (Blood et al., 2011).

Thus, it is apparent that targeted interventions that focus on specific academic skills or specific behavior difficulties are effective with students with ED. Recently, educators and researchers have begun to analyze the role that the student plays in his or her learning and transition to adulthood. Research has focused on understanding how to increase motivation in students with ED, which has been traced to the student's ability to make decisions, set goals, and to understand his or her abilities and needs as he or she works to achieve those goals, a trait known as self-determination (Wehmeyer, Palmer, Agran, Mithaug, & Martin, 2000).

### **Interventions that Promote Self-Determination**

While the aforementioned interventions have been effective in increasing time on-task, decreasing disruptive behaviors, and improving academic skills, none demonstrated a lasting impact on the academic engagement of students. Furthermore, none of the aforementioned interventions were designed to promote the students' understanding of themselves as causal agents in their lives. In contrast, interventions that promote self-determination have demonstrated increased success among students while teaching them skills to become better self-advocates so they are able to independently make choices and decisions that affect their lives. For example, a recent meta-analysis of fifteen studies on the effectiveness of a self-determination intervention found that the Self-Determined Learning Model of Instruction had a positive impact on academic and transition-related outcomes of K-12 students in the United States and Korea (Lee, Weymeyer, & Shogren, 2015). Ten of the fifteen studies reported maintenance and generalization data of skills over time, indicating that the intervention is effective even after the actual time of intervention. Promoting self-determination and providing opportunities for students to

build self-determination skills provides students a sense of control over their education, and in turn, has been shown to increase academic engagement.

Choice-making is an intervention method that promotes self-determination in students (Dunlap et al., 1994; Green et al., 2011; Wehmeyer, Agran, & Hughes, 1998). Students with emotional and behavioral challenges benefit greatly from choice-making interventions as they often need additional behavioral support (Dunlap et al., 1994). As students with behavioral challenges encounter negativity in many of their school interactions, choice-making represents a positive approach to reducing behavior problems without high levels of external control or coercion. Students who are given opportunities to make choices are more likely to be engaged in academic activities and to have positive interactions with peers and adults in school (Green et al., 2011). In fact, offering choices to children with ED provides opportunities for positive communication and interactions with their teachers and other adults in the classroom.

### **Statement of Purpose**

It is well documented that students with emotional disturbance struggle with many aspects of school, including academic performance, relationships with teachers and peers, and a lack of engagement in the school community (Algozzine et al., 2011; Anderson et al., 2001; Lee & Jonson-Reid, 2009). In an effort to make school a more positive learning environment for students with ED, several interventions have been identified, including interventions targeting reading and writing skills, as well as video modeling and self-monitoring interventions that target behavioral regulation. While these interventions show promise, there is a lack of research on how interventions that offer opportunities to build self-determination skills may impact students with behavioral

challenges. Interventions that promote self-determination have demonstrated effectiveness in the academic engagement of students with disabilities (Jolivette et al., 2001; Mazzatti, Test, & Wood, 2012; Ramsey et al., 2010;); however there is still a dearth of information on how these interventions specifically affect elementary students with ED. Therefore, the purpose of the current study is to evaluate the effectiveness of a choice-making intervention on the academic engagement and disruptive behaviors among a sample of elementary-aged students with ED.

## Chapter 2: Literature Review

During the 2012-13 school year, more than 350,000 Students with emotional disturbance (ED) were identified in the United States, comprising 5.6 percent of the total number of students with disabilities (U.S. Department of Education, 2016). It is estimated that more than a third of these students are at the elementary level (Cullinan, Evans, & Epstein, 2003). The majority of students with ED (80%) are male, and 20% are female (Reid et al., 2004). In addition, African American students are almost twice as likely to be classified as ED than are Caucasian students. Students with ED are more likely to come from poor, single parent households and generally begin receiving services a year later than do students with other disabilities (Lee & Jonson-Reid, 2009).

Unfortunately, students with emotional disturbance often exhibit an array of negative behaviors that make success in school difficult for them to achieve (Algozzine et al., 2011). As a result, students with ED experience the lowest post-school outcomes of any disability group (Nelson, et al., 2004; Overbeek, Vollebergh, Meeus, Engels, & Luijpers, 2001; Reid et al., 2004; Reschly & Christenson, 2006; Villarreal, 2015). Providing appropriate interventions to help students with ED succeed in school involves an understanding of their needs and the obstacles that they face. Important also is the goal of providing services to students with ED that will assist them in identifying their strengths and weaknesses, and to help them become decision makers and self-advocates, especially as they transition out of school (Carter et al., 2006; Field, 1998). Self-determination theory (Deci & Ryan, 1985) provides a framework for encouraging such behaviors in students. Thus, interventions that incorporate the tenets of self-determination theory may offer a glimmer of hope in educating students with ED in ways

that will support them throughout their school careers, and can provide strategies to lead productive lives once they leave the educational setting.

### **Characteristics of Students with ED**

Researchers have found it difficult to gather comprehensive information on students with ED as the federal definition of emotional disability is very vague (Cullinan et al., 2003). In order to be classified as having ED, students must exhibit an inability to learn that is not explained by intellectual, sensory, or health factors, as well as one of the following: an inability to build or maintain satisfactory interpersonal relationships with peers and teachers, inappropriate behaviors or feeling, a general mood of unhappiness or depression, or the development of physical symptoms associated with emotional problems (IDEA, 2004). According to the Individuals with Disabilities Education Act (2004), these symptoms must persist for a long time, and to a marked degree. However, IDEA does not give specific diagnostic criteria for characteristics such as “a long time” or “to a marked degree.” Such vague wording often hampers researchers and practitioners from differentiating ED from social maladjustment for research and identification purposes (Cullinan et al., 2003). Additionally, diagnostic instruments that specifically diagnose ED according to the definition given by IDEA (2004) are rare, making consistent diagnosis difficult (Cullinan et al., 2003). Despite these difficulties, researchers have been successful in describing behaviors associated with a diagnosis of ED that can be targeted for intervention, such as disruptive behavior, as well as the overall school functioning of these individuals.

Students with emotional disabilities exhibit a variety of behaviors. While some students exhibit internalizing behaviors, such as withdrawal or anxiety, most students

exhibit externalizing behavior, making them disruptive, defiant, and aggressive in the school setting (Cullinan et al., 2003). In a comparison of students both with and without ED, students with ED exceeded their non-disabled peers on these aspects of externalizing behavior. In addition, they found that students with ED were more likely to experience negative emotions and thoughts of unhappiness and depression than students without ED and that many experienced more than one of the qualifying criteria for ED classification (Cullinan et al., 2003).

Students with ED have a greater likelihood of being educated somewhere other than the general education classroom than do students with other disabilities, including students with learning disabilities, intellectual disabilities, and hearing impairments (Skerbetz & Kostewicz, 2013). Several options exist for educating students with ED, with as many as 40% being educated outside of the regular classroom for at least 80% of the day. This includes those students who are educated in special education schools for students with ED, where they have access to smaller class sizes, specially trained teachers and para-professionals, and additional services, such as therapy, individual and group counseling, crisis intervention, family counseling, substance abuse counseling, juvenile justice system services, and psychiatric services. Additionally, about 20% of students with ED are educated in the resource classroom, and about 35% remain in the regular education classroom (Mattison, 2011). Students with ED are also more likely to be served outside the general education classroom if they are poor or members of a racial-ethnic minority group (Siperstein, 2011).

## **Obstacles Faced by Students with ED**

Students with ED face many obstacles in their educational journeys. Perhaps the most significant is that students with ED lag behind their peers in all aspects of academic functioning, with students with ED performing an average of one to two years below their grade peers in all subjects, with the strongest effects being in math, spelling, and written expression (Nelson et al., 2016; Reid et al., 2004; Rice & Yen, 2010).

Students with ED often struggle with deficits in both receptive and expressive language skills beginning at young ages and persisting through high school (Benner, Mattison, Nelson, & Ralston, 2009; Nelson et al., 2004). Given their struggles in both receptive and expressive language, it is not surprising that students with ED experience difficulties in other academic areas, such as reading and writing, including lower scores on standardized tests in reading and writing (Rice & Yen, 2010). For example, researchers estimate that over half of students with ED perform below the 20<sup>th</sup> percentile in reading (Wanzek et al., 2014) and writing appears to be an especially difficult subject area for many students with ED (Gage, Wilson, & MacSuga-Gage, 2014; Reid et al., 2004).

Math is no exception as students with ED performed lower on state standardized assessment than students without ED, and met minimum proficiency standards at lower rates as their grade level increased, suggesting that their math deficits increased over time even for those receiving the most support services (Temple-Harvey & Vannest, 2012). Results also demonstrated that only half of the students with ED participated in the math assessment, with those educated outside of the regular classroom demonstrating the lowest rates of participation.

In fact, students with ED are not only more likely to struggle academically than non-disabled students, but they are more likely to struggle throughout their academic careers, with deficits often becoming more profound as the student becomes older. For example, in a study examining 8- to 18-year-old students with ED, the percentage who performed below grade level in reading and math either grew or remained stable throughout their schooling (Nelson et al., 2004), despite school-based support and intervention. Across studies, students with ED demonstrate poorer performance on standardized tests than their non-disabled peers, as well as lower graduation rates, higher rates of course failure and grade retention, difficulty in note-taking and test-taking, lack of motivation, and a smaller likelihood of continuing their education once they leave high school (e.g., Anderson et al., 2001; Reid et al., 2004).

Given these difficulties, many studies have explored individual and group differences among students with ED to determine potential solutions to address these academic deficits. For example, gender does not appear to be a predictor among students with ED, as boys and girls demonstrate similar academic growth (Nelson et al., 2004; Rice & Yen, 2010). Type of placement has also not been found to significantly affect a student's academic achievement as students placed in self-contained settings where they received full-time academic and behavioral support have not shown more improvement than those educated in the general education classroom where they receive limited support (Anderson et al., 2001). In contrast, retention of students in the lower grades is associated with lower academic performance over the course of their school years (Anderson et al., 2001). Students with ED are also more likely to experience school mobility throughout their educational careers, with students attending an average of 3.70

schools by the time they are in fifth grade and many changing schools in the middle of a school year (Malmgrem & Gagnon, 2005). Such mobility may exacerbate the learning difficulties students experience.

Students with ED are also more likely to struggle with social skills and relationships than students without ED (Cooley & Triemer, 2002; Milsom & Glanville, 2010). For example, students with ED are more likely than their non-disabled peers to be maltreated, both at home and at school. Students with disabilities are more likely to be neglected and physically or sexually abused than non-disabled children, and those with ED suffer maltreatment at higher rates (Haight, Kayama, Kincaid, Evans, & Keol, 2013; Lee & Jonson-Reid, 2009). Children who receive services from child welfare agencies often experience a high amount of mobility, compromising both their ability to keep up with the curriculum and their continued access to special education services (Haight, 2013).

Students with ED are also more likely to be the victims of bullying; over 40% of students report that they had been bullied, with 25% of students stating that they had been bullied at least once per week. Furthermore, although national statistics suggest that boys are more likely to be the victims of bullying, among the ED population, girls report being the victims of bullying more often than boys (Carran & Kellner, 2009). Furthermore, students with ED are more likely than students in any other disability category (except ADHD) to be bullied, with previous victimization often leading to future victimization (Blake et al., 2016). As social skills have been found to serve as a protective factor for students, social skills instruction may offer one potential strategy for intervention among students with ED as students with ED demonstrate lower social skills than their

nondisabled peers (Milsom & Glanville, 2010). Students with ED find it more difficult to decode non-verbal communication than do students without ED (Cooley & Triemer, 2002). Students who have difficulty decoding nonverbal cues may have difficulty engaging with other students because they lack a key component of communication, thus excluding them from interaction with their peers. Additionally, if students misinterpret non-verbal social cues, they may perceive their interactions to be more negative and may demonstrate negatively to these interactions. In fact, children with such difficulties are often less popular or disliked by their peers, often described as reacting in inappropriate or aggressive ways, or exhibiting withdrawn behaviors (Cooley & Triemer, 2002).

### **Life Outcomes for Students with ED**

Students with ED encounter many of the same struggles outside of the school environment and into adulthood as they do in their schooling years, beginning with completion or non-completion of high school. Given their academic and social struggles through their school years, it is not surprising that students with ED have the lowest graduation rates of any disability group, with approximately 55% of students dropping out prior to high school graduation (Lee & Jonson-Reid, 2009). Furthermore, those who do complete high school are more likely to receive a non-standard graduation document, such as a GED or certificate of completion rather than a regular high school diploma and they are less likely to attend post-secondary schooling than students with other disabilities (Malmgren & Gagnon, 2005; Villareal, 2015).

Reschly & Christenson (2006) investigated factors that led to the unusually high percentage of students with ED who drop out of high school. Students with ED are likely to have behavior problems in school, including being sent to the office for misbehavior,

fighting with other students, being unprepared for class, and demonstrating a higher numbers of absences and tardies. They also less likely to have close relationships or positive interactions with teachers and peers. These variables significantly increase the likelihood that a student will drop out of school (Reschly & Christenson, 2006).

Interestingly, those students who were placed in less restrictive environments (e.g., the general education classroom) and those who did not experience grade retention during their schooling were less likely to drop out than those educated in self-contained classrooms or those retained for one or more years (Reschly & Christenson, 2006; Villarreal, 2015).

Many students with ED experience episodes of juvenile delinquency and incarceration at some point in their youth, both at the state and federal level (Villarreal, 2015). National estimates indicate that over half of students with ED have been arrested at least once, typically during adolescence and young adulthood (Lee & Jonson-Reid, 2009). Overbeek and colleagues (2001) evaluated the longitudinal associations between ED and delinquency and found that although girls experienced higher levels of emotional disturbance, boys demonstrated more delinquent acts during the previous twelve months. They found emotional disturbance in adolescents generally increased through mid-adolescence, stabilizing during late adolescence and young adulthood, with girls experiencing a rise in emotional disturbance slightly earlier than boys. In conclusion, the authors stated that “adolescence is an important risk period for the development of more severe internalizing and externalizing psychosocial problems” (Overbeek et al., 2001, p. 418), indicating the need for emotional and behavioral support for these students, especially during early and mid-adolescence. Lee & Jonson-Reid (2009) echo this

sentiment, stating that interventions are less effective for older children, making the path to delinquency more likely if school personnel wait to intervene until students exhibit severe behavioral difficulties in adolescence rather early interventions designed to target problem behaviors.

### **Self-Determination Theory**

“Self-determination is the capacity to choose and to have those choices be the determinants of one’s actions” (Deci & Ryan, 1985, p. 38). Further investigation breaks self-determination down into a “combination of skills, knowledge, and beliefs that enable a person to engage in goal-directed, self-regulated, autonomous behavior” (Field, Martin, Miller, Ward, & Wehmeyer, 1998, p. 115). Another way of looking at self-determination is as “acting as the primary causal agent in one’s life and making choices and decisions regarding one’s quality of life free from undue external influence or interference” (Wehmeyer et al., 1996, p. 24). According to Wehmeyer and colleagues (1998), being a causal agent means that the individual causes things to happen in his or her life through his or her choices and decisions.

Self-determination theory (SDT) stemmed from research conducted by Deci & Ryan on types of motivation. Expanding from the ideas of drive theory, which states that behavior is governed by actions that individuals take to meet their physical and psychological needs, Deci & Ryan discussed the concept of intrinsic motivation, whereby the individual engages in certain behaviors in order to feel competent and autonomous (Deci & Ryan, 1985). Deci & Ryan argue that all children are internally motivated to learn, to undertake challenges, and to solve problems as they learn to navigate the world around them. In addition to this innate desire to learn, human beings also have

psychological needs of feeling as though they have the necessary skills and knowledge to be competent and effective (competence), feeling a sense of belonging and connectedness to other human beings (relatedness), and feeling that they have the freedom and independence to control their own behaviors (autonomy; Deci & Ryan, 2000). These needs create motivation within individuals that guides their behavior. Similar to the way an unmet physical need can lead to undesirable behaviors (e.g., stealing food in order to satisfy a need to eat), when individuals do not get these psychological needs met, they may express undesirable behaviors, such as being unable to regulate their behaviors without external controls, and becoming amotivated. This can develop into a cycle where the individual's behaviors further thwart their efforts to meet their psychological needs of competence, relatedness, and autonomy (Deci & Ryan, 1985). In comparison to a physical need that becomes stronger the longer it goes unsatisfied, so does a psychological need become stronger the longer it is thwarted (Deci & Ryan, 2000).

The development of self-determination, however, is also created through the individual's social interactions within his or her environment. According to SDT, although the strongest motivations come from an individual's motivation to meet his or her three main psychological needs, individuals also go through the natural process of transforming socially sanctioned behavioral expectations into their own values (Deci & Ryan, 2000; Wehmeyer, Palmer, Agran, Mithaug, & Martin, 2000). Thus, based on the ideas of SDT, behavior is governed both by the need to meet distinct psychological needs, and also by the societal norms and mores that the individual has assumed into his or her values and repertoire of acceptable and useful behaviors. Lack of motivation is caused when an individual does not feel a sense of efficacy, or feels that he or she does

not have control over a desired outcome (Deci & Ryan, 2000; Wehmeyer et al., 2000).

When these feelings occur, the individual lacks the desire or ability to regulate his or her own behavior. Conversely, when these psychological needs are met, the individual is more effective at regulating his or her behavior and can possess and increased desire to learn (Deci & Ryan, 2000).

In 1990, the U.S. Department of Education recognized self-determination as an important educational outcome for students with disabilities and funded research into the applications of Deci & Ryan's theory in the educational setting (Wehmeyer, 2015). Based on his research with students with disabilities, Wehmeyer (1998) identified four essential elements for self-determination among students, including guidelines that 1) the individual acts autonomously, 2) the individual's behavior is self-regulated, and 3) the person initiates and responds to events in a psychologically empowering manner, behaving in a self-realizing manner. In order to possess such skills, an individual must also have an understanding of his or her strengths and limitations, and must believe that he or she is a capable human being who is able to make choices and to take control of his or her life.

Autonomous behavior is when an individual acts according to his or her own preferences, interests, and abilities (Wehmeyer et al., 1998). Activities that can lead to autonomous behavior include physically taking care of ones self, having responsibilities in the family, and engaging in leisure and vocational activities. Self-regulated behaviors include self-management strategies such as self-monitoring, self-instruction, self-evaluation, self-reinforcement, goal setting, and problem solving. When individuals engage in "psychologically empowering" ways, they feel more control over their own

circumstances and outcomes, experiencing an increased internal locus of control. This behavior also incorporates the idea of efficacy, as individuals know that they have the skills necessary to affect outcomes. Finally, self-realizing individuals demonstrate comprehensive and accurate knowledge of themselves, including an awareness of their own strengths and limitations.

Multiple researchers have identified an individual's ability to make choices as a central component of self-determination (Deci & Ryan, 2000; Dunlap et al., 1994; Isen & Reeve, 2006; Field et al., 1998; Palmer et al., 2012; Palmer & Wehmeyer, 2003; Shogren et al., 2007; Test, Fowler, Whood, Brewer, & Eddy, 2005; Wehmeyer, 2015). In order to exercise choice-making, individuals must have freedom of choice (Deci & Ryan, 1985). Wehmeyer et al., (1998) distinguishes between the ability to make choices and the ability to make decisions. While making a choice involves selection between one or more options that are available, decision making involves defining the issue or problem, the decision to be made, collecting information about the situation, evaluating possible outcomes and consequences of the choices available, selecting the best option, and finally, putting the choice into action. Problem solving, then, is a key component of both decision-making and self-determination. Problem solving includes solving situation-specific problems, as well as social problem solving, an essential skill when interacting with other with other people (Palmer & Wehmeyer, 2003; Test et al., 2005; Wehmeyer et al., 1998). Thus, being given the ability to make choices prepares a child for the tasks of eventually making decisions and problem solving.

Finally, another component of self-determination is the ability to set goals. Setting a goal allows the individual to identify possible outcomes and to choose one goal

to achieve that potential outcome. This behavior also requires individuals to identify which competencies they have that will enable to meet their goal, and which skills they are lacking that must be enhanced in order to be successful. In working to achieve their goals, individuals also engage in self-correcting and problem solving behaviors as they encounter challenges and obstacles and must alter their behavior in order to be successful (Deci & Ryan, 1985; Wehmeyer et al., 1998). Deci & Ryan (1985) write that individuals have an awareness of the fact that success in a particular activity could be satisfying, and that this desire for satisfaction drives the setting of goals. Once the satisfaction is reached, the goal and the behavior will end. If the self-determined individual's goal is not achieved, or it doesn't lead to the expected satisfaction, he or she will set a different goal or alter the behaviors needed to reach the original goal. Together, goal setting and choice making increase an individual's sense of control and efficacy, leading to higher self-determination and improved outcomes. Furthermore, as individuals experience the satisfaction that comes with success and competency, their sense of intrinsic motivation grows, which also increases their sense of self-determination and awareness of themselves as people with the skills to make choices, set goals, and see the goals through (Isen & Reeve, 2006).

Several researchers have found that promoting student self-determination is valued by parents, teachers, and administrators. Grigal and colleagues (2003) surveyed almost 250 parents and primary caregivers of high school students with disabilities, as well as special and general education teachers. Respondents agreed that students should be taught self-determination and goal-setting skills at school, and should participate in self-advocacy activities, such as attending and participating in their IEP meetings.

Respondents also endorsed students having the opportunity to express choice at school. However, only three-quarters of parents and caregivers believed that such skills were actually being taught to their student at school (Grigal et al., 2003). Likewise, administrators expressed the importance of teaching the components of self-determination, particularly those of decision-making, problem solving, self-management and self-regulation. However, in practice, only 50% of administrators believed that any of the self-determination skills were being taught in their schools and most could not identify professional development opportunities available to teachers that focused on the promotion of self-determination in students (Carter et al., 2015). Thus, although most stakeholders agree that it is important to teach self-determination skills to students, most teachers, parents, caregivers, and administrators cannot identify current school-based interventions in this area.

### **Obstacles to Self-Determination in Students with ED**

Having a disability is considered to be more of a significant predictor of self-determination than is an individual's intelligence (Shogren et al., 2007). Many researchers have found that students with disabilities lag behind their non-disabled peers in self-determination skills, often because the environments that they live and learn in do not promote those practices, usually due to the perception of the students and their caregivers and teachers that they are not capable of making decisions for themselves (Carter et al., 2010; Carter et al., 2015; Grigal et al., 2003; Seo et al., 2015; Shogren et al., 2007). One study found that teachers rated their students with cognitive disabilities as having less capacity for self-determination, and although they rated the environment as

offering opportunities to build self-determination skills, students rated the same environment as possessing fewer opportunities (Shogren et al., 2007).

Among students with disabilities, students with ED rate among the lowest in self-determination, often behind students with learning disabilities, and sometimes behind students with cognitive disabilities. Since self-determination skills rely heavily on the capacity for students to engage in social problem solving (Deci & Ryan, 1985), the ability to first identify strengths and needs, and to be able to communicate those needs in an effective manner (Wehmeyer et al., 1998), it is a reasonable assumption that students with ED will struggle with self-determination skills. In fact, these are two areas that have been shown to hinder the development of such skills in students with ED (Carter et al., 2010). Additionally, students who exhibit challenging behavioral needs are often placed in more restrictive environments where the emphasis is often on behavioral control rather than self-determination (Carter et al., 2010).

One study compared teacher perceptions of the self-determination skills of students with LD versus those with ED (Carter et al., 2010) using self-determination rating scales that measure the capacity and opportunity of students to be self-determined, and scales that measure social skills and deficits of the students in the sample. They found that teachers rated students with LD to have significantly greater capacity for self-determination than students with ED. The authors also found that social skills ratings were also positively associated with teacher's rating of the student's self-determination, with those students who exhibited the most behavioral problems having the least capacity for self-determination.

In a similar study that also included both parent and teacher ratings of self-determination capacity, both parents and special education teachers rated the self-determination capacity of students with ED as less than that of students with LD. Parents stated that students with ED had less knowledge about self-determination and the behavior it requires, less ability to demonstrate self-determined behaviors, and less self-efficacy (Carter et al., 2006). Moreover, parents rated the student's self-determination lower than student self-reports of their own skills (Carter et al., 2006). When rating the opportunities to build self-determination skills both at home and at school, it was also found that students with ED were given fewer opportunities in both environments to build self-determination skills.

### **Interventions that Promote Self-Determination**

As students with ED may encounter a multitude of struggles throughout their education, the development of effective interventions is critical. Research suggests that not only do students with ED struggle both academically and socially in school, their struggles magnify as they get older, which can result in increased rates of delinquency, higher drop out rates, and difficulties throughout their lives in employment and relationships (Anderson et al., 2001; Carran & Kellner, 2009; Gage et al., 2014; Overbeek et al., 2001; Reid et al., 2004; Reschly & Christenson, 2006; Temple-Harvey & Vannest, 2012). Research also indicates that the development of a sense of self-determination and seeing oneself as the causal agent in one's life can lead to very positive outcomes, a development which heretofore appears to also be lagging in students with ED (Carter et al., 2010). This information encourages the implementation of interventions that promote the development of self-determination skills in students with

ED with the hope that such interventions will give these students a sense of control in their lives and motivation to finish high school and increase their academic achievement.

Some interventions that promote the development of self-determination focus on self-management. One example of a self-management intervention asked students to record their on- and off-task behaviors upon hearing a cue (i.e., tone) during math class (King-Sears & Bonfils, 1999). A second video modeling intervention asked students to watch a video of a model performing a skill and then to engage in self-monitoring of his or her own behavior in using that skill (Blood, Johnson, Ridenour, Simmons, & Crouch, 2011). According to Blood et al., (2011), self-monitoring interventions include teaching the student to identify whether or not the target behavior has occurred and teaching the student how to record the behavior. Although early interventions of this kind were implemented with students recording their behavior using paper and pencil, modern technology allows for the use of handheld devices that reduce the amount of prompting needed, as well as the amount of assistance needed from the teacher in identifying the behavior and recording. Technological devices have also been found to be more popular with students (Blood et al., 2011).

Several interventions that target self-advocacy skills have demonstrated efficacy with students with disabilities. In a review of studies that targeted self-advocacy skills, Roberts and colleagues (2016) analyzed interventions with almost 1000 students in elementary, middle, and high school settings across the country, primarily examining students with LD. Most interventions focused on skills such as IEP leadership, self-awareness, writing, transition knowledge, college readiness, and knowledge of rights and responsibilities (Roberts et al., 2016). The authors concluded that more studies were

needed to investigate the predictors of self-advocacy, as well as the effect of race and ethnicity and gender on self-advocacy. Sebag (2010) also developed a Self-Advocacy Behavior Management model (SABM), in which students were taught self-monitoring tools and strategies, students identified behavioral goals and devised strategies to achieve those goals, and assessed the effectiveness of strategies, making adjustments when necessary. The model also involved a teacher student conference where teachers provided feedback to each student on his or her performance within the model. Study results demonstrated the model was effective in improving the behavior of 62% of high school students who received services in a special education resource room at their local public high school (Sebag, 2010).

Two additional studies were conducted with elementary aged students who received special education services, focused on helping students use self-advocacy skills to advocate for their accommodations within their own IEP. The first study trained elementary students to identify their strengths and needs, to identify their goals, and prepared students to discuss them at their IEP meeting (Danneker & Bottge, 2009). The study used *Standing Up for Me*, a self-advocacy curriculum published by the Florida Department of Education. Study results indicated students demonstrated many positive effects, including keeping the IEP meeting student-centered, giving students the opportunity to develop and use self-determination skills in a real-life setting, and increasing collaborative problem solving among the adults in the meeting (Danneker & Bottge, 2009). Students also identified positive effects of the intervention, with one boy stating, “Now I know what my goals are,” and a special education teacher observing that a student “made it so he took more control over his life.” Parents also noticed an

increased sense of responsibility and pride in their children following the IEP meeting. Following a similar theme, the second study identified a plan for elementary students to self-advocate for accommodations included in their IEP, including: assisting students in goal setting, understanding their accommodations and IEP, helping students determine when and where they need to receive accommodations, developing strategies for asking for accommodations, role-playing through practice with students, and monitoring students' progress (Hart & Brehm, 2013). Both studies highlight the need for students to begin training in self-determination and self-advocacy early, as helping student develop and master these skills prior to becoming of age when the IEP begins to include transition goals (Danneker & Bottge, 2009; Hart & Brehm, 2009).

The Self-Determined Learning Model of Instruction (SDLMI; Palmer & Wehmeyer, 2003) is a widely used intervention, targeting the developing of self-determination skills by posing self-determination questions. Questions include “what do I want to learn,” “what do I know about it now,” “what must change for me to learn what I don't know,” “what could keep me from taking action,” “what can I do to remove these barrier,” and “when will I take action.” In answering these questions, students identify a problem (what they want to learn), identify potential solutions to the problem, identify barriers that might affect their ability to solve the problem, and to create a plan to achieve their goal (Palmer & Wehmeyer, 2003). The SDLMI is designed to help students to self-regulate and self-direct the learning process based on their own goals, interests, and abilities, with assistance and support from their teacher (Wehmeyer et al., 2012).

Additionally, the SDLMI can be modified to be used with children from early elementary

school through high school, as teachers can provide age-appropriate accommodations to content and goal-setting (Palmer & Wehmeyer, 2003).

The SDLMI has demonstrated effectiveness in studies with students with disabilities for over a decade. A recent meta-analysis of fifteen articles published between 2002 and 2012, analyzed the effectiveness of the SDLMI in studies affecting 50 participants with disabilities (Lee et al., 2015). DSLMI goals included accessing the general education curriculum by students with disabilities, through problem-solving skills, active classroom participation, self-regulation, academic achievement, self-advocacy in the form of requesting help, and in reducing disruptive behaviors. Other studies targeted transition goals for high school students, such as student involvement in career and vocational planning, enhancing job performance, and obtaining specific job skills. Overall, the SDLMI was slightly more effective in targeting transition-related goals than in accessing the general education curriculum, and was most effective with students with Autism Spectrum Disorder, followed by students with intellectual disability, learning disability, and emotional disturbance (Lee & Wehmeyer, 2015).

The effectiveness of the SDLMI was tested on students with learning and/or cognitive disabilities who attended high schools in the central United States. 94 students with intellectual disability and 218 students with learning disabilities participated in the study. During the first year, half of the students received instruction via the SDLMI from teachers trained specifically for the study. After the first year, student self-determination was measured using the AIR Self-Determination Scale. While the intervention group experienced modest growth in their level of self-determination, the control group actually experienced a decline in self-determination skills. During the second year, the SDLMI

was implemented at all campuses for both groups. The students who had received instruction via the SDLMI for two years showed higher levels of self-determination than the control group, with intervention group scores improving at a faster rate (Wehmeyer et al., 2012). Evidence from this study supports the need for initial and ongoing implementation of interventions that increase student self-determination skills.

One obstacle of implementing SDLMI in the classroom is the lack of adequate teacher training (Mazzotti, Test, & Wood, 2012; Wehmeyer, 2015). In order to address both the lack of teacher training and the time demands on a teacher using the SDLMI, Mazzotti et al., (2012) had students develop a powerpoint presentation on SDLMI goal-setting. This is one of the few studies that illustrate the effectiveness of the SDLMI with students with ED. The goal-setting curriculum was presented to fourth and fifth graders who frequently engaged in disruptive behaviors in the classroom in five 15-minute sessions per week. The students were then questioned about their knowledge of the SDLMI process. Overall, students showed increased knowledge of the SDLMI and fewer episodes of disruptive behavior. In addition, the reduction of disruptive behavior was present one to three weeks following the removal of the intervention (Mazzatti et al., 2012).

Although the SDLMI has demonstrated effectiveness with a variety of students, interventions are needed that can be readily implemented by a classroom teacher without a lot of extra work or training on the part of that teacher (Wehmeyer, 2015). Perhaps some of the most effective interventions focus on providing choices to students with disabilities (Dunlap et al., 1994; Green et al., 2011; Jolivette et al., 2001; Ramsey et al., 2010; Roberts et al., 2016; Skerbetz & Kostewicz, 2013; Skerbetz & Kostewicz, 2015).

For example, one intervention offered a choice of activities to students with ED and found that four out of the five African American students with ED who participated in the current intervention made improvements in on-task behavior and academic accuracy. Teachers gave students a choice of four assignments from a packet, including cloze sentences and multiple choice, sentence writing, fill-in-the blank, and word maps. Results showed that student engagement levels went from 71 - 88% prior to the intervention, to an average of 95% engagement during the intervention, suggesting that student choice may be an effective strategy for students with ED. Although the students also improved in overall academic accuracy on their work, the intervention did not incorporate teacher feedback. Therefore, the effect of choice on academic achievement might have been higher had the teacher provided feedback and guidance on content as well as a choice of different activities.

A second study was conducted that offered student choices in what type of what work to complete by offering high-interest material and activities (Kern, Bambara, & Fogt, 2002). Six boys, aged 13-14, participated in the study at a private school that served students with severe behavioral challenges (e.g., expelled from a local public school). All students in class voted on one of two activities presented by the teacher. The students were given the chance to make individual choices during daily lessons, including the method by which the student completed the assignment. The teacher also offered high-interest activities, such as identifying pollution in the students' neighborhoods or developing their own trivia questions. Although students varied on their engagement behavior prior to intervention (27-78% average engagement level), student's average engagement level increased to 87% following the intervention, a trend which was

reversed upon return to baseline. Engagement in disruptive behavior also decreased from 8% to 1%, a figure which increased to 12% during return to baseline (Kernet al., 2002).

Some studies have found that choice interventions are effective when students are able to choose the order in which they complete assignments (Jolivette, Wehby, Canale, & Massey, 2001; Ramsey, Jolivette, Patterson, & Kennedy, 2010). When students were given a choice of which assignment to complete first, their academic engagement often increased and their engagement in disruptive behaviors decreased. For example, Jolivette et al., (2001) implemented a choice intervention where students were given a choice of the order in which they completed math worksheets during independent math practice. Two of the three students who participated demonstrated moderate effects in their academic engagement. A second study found similar results in a study that examined how five adolescent students responded to being given choice in both language arts and math activities. In addition, when asked about the effectiveness and ease of the implementation, one teacher stated that the intervention was effective with her students, and that she was willing to implement it in the future (Jolivette et al., 2001).

Interventions that offer choice do not always focus on selecting different academic activities. Another option may be to offer choices for consequences for disruptive and appropriate behavior, a strategy known as Consequence Choice. One study investigated the effect that consequence choice had on students with ED in a self-contained classroom (Skербetz & Kostewicz, 2015). Specifically, four fifth grade students with ED or ADHD were given choice of reinforcement during independent math activities. Some students received no choice and no reinforcement, in which they were given no choices during the math activities, and also received no reinforcement. Other

students received reinforcement, but differed in whether or not they were given a choice of the reinforcement. During the first phase, behavior improvements were most significant for those students given the choice of reinforcement. During the second phase, the teacher increased the difficulty of the math task. While behavior deteriorated for all conditions, the effect was the largest in the no reinforcement condition, suggesting consequence choice is effective in improving academic engagement in students with ED and other behavioral challenges. Results also demonstrated the importance of matching task difficulty with student ability and the use of student-selected reinforcements, especially during difficult tasks (Skerbetz & Kostewicz, 2015).

Choice making interventions can also be implemented with young children. Implementing choice-making in elementary-aged students enables them to exercise some control over their environment and sets the stage for learning about the consequences of choices (Palmer, et al., 2012). Children's problem-solving skills can also be encouraged through scaffolding a discussion or situation, and discussing different scenarios and choices with children. By offering young children choices, and by actively engaging them in problem-solving activities and discussions, self-regulation skills can improve as children learn consequences of choices and behavioral expectations (Palmer et al., 2012).

According to Wehmeyer, having the opportunity to make choices is crucial for students to become self-determined. Learning to make choices between alternatives builds skills that are imperative to decision-making, a process in which individuals must list relevant alternatives, identify possible consequences, assess the consequences, and identify the most appropriate course of action (Wehmeyer et al., 1998). Effective decision making will lead to effective problem-solving, as students are presented with

problems on a daily basis, and must develop strategies to solve those problems. Once an individual possesses the ability to make decisions, assess consequences, and solve problems that arise, he or she can begin to set goals that are important to that individual, and can navigate the process in achieving those goals (Wehmeyer et al., 1998).

Therefore, choice-making interventions are the first step to building self-determination in students.

### **Self-Determination in Young Children**

Although interventions that promote the development of self-determination skills have been found to be effective in several studies involving middle and high school students (Lee et al., 2015; Wehmeyer et al., 2012), few studies have focused on the development of self-determination skills with young children. The importance of promoting self-determination skills earlier in the educational process is gaining popularity among researchers because it gives students time to build their self-determination skills prior to transitioning from high school to the larger society (Carter et al., 2015; Hart & Brehm, 2013; Palmer & Wehmeyer, 2003). Teaching these skills to students early in their developmental trajectory allows students time to practice and refine their skills, teaches parents and teachers strategies to promote self-determination among students, and prevents the development of over-dependence, low self-efficacy, and external locus of control among students (Palmer et al., 2012; Palmer & Wehmeyer, 2003). Therefore, it is important to lay the foundations of self-determination early in childhood, rather than waiting until the high school student is ready to begin transition planning.

In order to develop self-determination skills throughout childhood, these skills must be introduced early in elementary school (Test, Fowler, Wood, Brewer, & Eddy, 2005). Children can begin learning about themselves, including their strengths and needs, early in elementary school. As they grow older, they can also learn about the rights of citizenship, rights associated with being a student who receives special education services, and how to become self-advocates. It is also important to target communication skill development early in childhood, along with instruction on decoding nonverbal communication, and general social skills (Test et al., 2005). For example, the Kentucky Youth Advocacy Project (KYAP) targets self-advocacy skills in children as young as 7 years old. Although it incorporates a similar focus on goal setting, self-knowledge, and communication as other self-advocacy interventions, the creators also argue that building self-advocacy skills in children requires the work of a team, including the student and his or her parents (Kleinert, Harrison, Fisher, & Kleinert, 2010).

Research into the development of interventions that promote self-determination in young children is still in its infancy. Even more rare is research that focuses on elementary-aged children with emotional disabilities and how promoting self-determination in them can affect their learning. Wehmeyer (2015) observed the need to change the perception of interventions targeted at students with disabilities from a model of deficiency or defect to one that is strengths-based, and targets the gap between the student's strengths and the demands of the environment. Given the negative outcomes experienced by students with ED, as well as the evidence that those outcomes remain intact even when students receive intensive interventions in self-contained environments, it is important to re-evaluate the goals of such interventions. Interventions that are

designed to support students with ED should focus on the students' strengths, including teaching students to make choices that affect their education. This education needs to begin in early childhood, so that students with ED can continue to grow in self-determination throughout their lives, with anticipated continued positive outcomes during their time in school and post-graduation. Additional research on interventions that promote choice-making are needed to evaluate how they impact behavioral and educational outcomes of students with ED.

### **Chapter 3: Method**

The purpose of this study was to evaluate the effectiveness of a choice-making intervention on the academic engagement and disruptive behaviors among a sample of elementary-aged students with Emotional Disturbance.

#### **Participants and Setting**

Participants included six fifth grade students who were placed in a self-contained classroom for students with an emotional disability in a public elementary school in Tucson, Arizona. Participants have been given the following pseudonyms to ensure confidentiality: Doug, Teresa, Jake, Erik, Clara, and Ileana. The participating elementary school has approximately 600 students and 84% of students are eligible for free or reduced lunch. 89% of the students are Hispanic or Latino, 4% are Caucasian, 2% are African American or Native American, and less than 1% are Asian or Pacific Islander. Three of the students were male and three were female. Two of the students were Caucasian, three were Hispanic, and one was Caucasian and Native American. None of the students were English Language Learners, although two of the students' parents only spoke Spanish.

Students were selected for participation in the current study because of their enrollment in the self-contained classroom for students with ED. Five of the students were classified for special education as having an Emotional Disability (ED) and one was classified under the category of Autism. All of the students exhibited a history of disruptive behaviors in the classroom and had related behavioral goals in their Individual Education Plan (IEP). Some of the students had additional diagnoses of Attention Deficit Hyperactivity Disorder, Posttraumatic Stress Disorder, fetal exposure to

methamphetamines, speech and language impairments, and specific learning disability.

Three of the students regularly took medications. Of the six students, two students were removed from their family of origin by the foster care system. Characteristics of the six students are in Table 1.

Table 1

*Characteristics of Student Participants*

Student	Age	Classifications/ Diagnoses	Medications	Behaviors
Doug	10	ED, ADHD	Vyvanse, Clonidine, Ritalin, Methylphenidate	Hyperactivity, hitting, kicking, yelling, lying, distractibility, profanity
Teresa	11	ED, Speech and Language Impairment	None reported	Aggression, disruptive behaviors, leaving without permission
Jake	10	Autism	None reported	Refusal to follow directions, self-injurious behavior, difficulty focusing
Erik	10	ED, Specific Learning Disability, Fetal Methamphetamine Exposure, PTSD	Abilify	Hitting classmates, inappropriate gestures, throwing objects at classmates and teachers.
Clara	11	ED, Specific Learning Disability	None reported	Aggression difficulty following directions, defiance, social skills problems, making negative comments
Ileana	10	Emotional Disability, ADHD	None reported	Distractibility, tendency to wander, shyness, noncompliance with rules, leaving without permission

The self-contained classroom and teacher were recommended for the current study by the school psychologist because the students in the classroom exhibited significant behavior problems regularly, and because the teacher was willing to try a new intervention in his classroom. The self-contained classroom was served by a certified special education teacher and two special education instructional aides. All six of the students attended general education classes for less than 40% of the day. Students occasionally participated in the general education classroom for classes such as physical education and art, and attended social functions, such as school assemblies, with their non-disabled peers. However, all core academic instruction took place in the self-contained classroom. One of the students also received speech and language services outside of the self-contained classroom with the speech and language pathologist. According to school records, the students in the classroom had demonstrated histories of problem behaviors, including defiance, not following directions, difficulty interacting with other students, excessive crying, leaving the classroom without permission, profanity, aggressive behavior toward students and staff, difficulty focusing in class, hitting, and kicking.

The classroom teacher had used several behavior management strategies prior to participating in this study. For example, the class employed a ranking system of martial arts belt colors. Students started at a white belt, and moved to orange, then to brown, and finally to black based on how many days of good behavior they had. Good behavior was rewarded by stars and problem behavior resulted in checks. The number of stars and checks each student received determined their belt rank, which in turn determined the activities they were eligible to participate in. The classroom teacher also utilized some

components of choice-making in his daily instruction and classroom management. For example, the students had daily “choice time,” when they are permitted to choose an activity based on their belt color. Similarly, when a student demonstrated good behavior, which included talking appropriately to adults and peers and following directions, or completed his or her academic work, he or she might be given time at the “choice table”. This was a separate table students used to complete arts and crafts or to play board games. However, although the students in the classroom were given choices during their day about reinforcement and their choice time activity, they were not given choices about which academic work or assignment to complete. Instead, the teacher chose the academic activities, the amount of time students had to complete them, and the order in which they had to be completed.

### **Materials**

Materials used for this study included materials necessary to implement the choice making interventions. In order to ensure that each student completed all of the required academic activities, the classroom teacher utilized a checklist for each student. The teacher or one of the instructional aides signed off on each activity as the student completed it using the checklist. Other materials consisted of standard classroom materials (e.g., paper, writing implements, worksheets, math manipulatives) that the teacher and aides used for the different activities that were offered to the students. Observational materials were used to measure the academic engagement and disruptive behavior of the six students, including observation recording logs that were used to record intervals in which academic engagement and/or disruptive behaviors were displayed.

**Dependent Variables**

The dependent variables were academic engagement and disruptive behavior. Academic engagement was defined as behaviors that demonstrate full participation in the students' academic activities. Such behaviors included attending to the assigned task, asking questions of the teacher and instructional aides that facilitate understanding, and turning in assigned work. Disruptive behavior was defined as behaviors such as leaving the seat or classroom without permission, talking out of turn, and making noise that disturb other people in the class (e.g., tapping a pencil, kicking a desk).

**Independent Variable**

The independent variable was the offering of a choice of activity to students during their regularly scheduled daily all-block, or centers time. Centers included completing a vocabulary assignment, writing in their journals based on a prompt given by the teacher, silent reading, and reading with the teacher. The three centers that involved work that could be completed independently (e.g., vocabulary, journal writing, silent reading) were included in the study. Students were given a choice of which order they completed the centers. They also could move on to the next center as soon as they had finished the work in each center instead of waiting for the typically allotted 15 minutes per center. When the student completed the work from each center, he or she showed the work to the classroom teacher or one of the instructional aides, who signed off on it on the student's checklist. All students were required to complete the work from all three centers within the total scheduled all-block time of one hour.

## **Research Design**

This study utilized an A-B-A-B withdrawal design. The withdrawal design was appropriate because the offering of a choice of center activities could be easily withdrawn from the classroom, and reintroducing the intervention added to the strength of the design. Baseline data was first collected for a total of eight days. Some of the students were absent during that time, therefore data was only collected for a total of six or seven days. Observations lasted thirty minutes each, and information was recorded for the number of intervals each student demonstrated academic engagement and/or disruptive behaviors. Once the baseline phase was completed, the intervention was then implemented for three days, at which time the intervention was withdrawn from the classroom for two days. The intervention was then implemented again for another three days. All observations were conducted during the class's regularly scheduled all-block time.

## **Procedures**

**General procedures.** This study consisted of four phases: 1) initial baseline data collection, 2) implementation of the intervention, 3) withdrawal of the intervention and return to baseline, and 4) reintroduction of the intervention. All observations took place in the students' self-contained classroom. Each observation session lasted 30 minutes and were divided into sixty 30-second intervals during which the observer indicated whether the student was academically engaged and whether the student engaged in disruptive behavior.

**Baseline procedures.** The first baseline phase lasted eight days and the second baseline phase lasted two days. During the first three days of the initial baseline phase,

observations were conducted during the class's regularly scheduled math instructional time while the students worked independently on math assignments. After the third day, the classroom teacher suggested that the observations be moved to the class's regularly scheduled all-block, or centers time, because the class was struggling with fractions; therefore opportunities for independent work during math would be limited. The remaining observations took place during the student's all-block time.

During both baseline phases, information was recorded daily on each student's academic engagement and disruptive behaviors. The classroom teacher followed the normal classroom routine for all-block time during both baseline phases. He assigned the students to their centers based on their reading group. Each center lasted 15 minutes. During this time the students were required to sit in the center's specific location and complete the assignment for that center. One of the classroom aides staffed the vocabulary center and another staffed the writing center. Students who were in the silent reading center sat at their individual desks. If a student finished the work before the 15 minutes ended, he or she waited to move on to the next center. All students then moved to the next center as a group.

**Intervention procedures.** The first intervention phase was implemented after eight days of baseline data had been collected. The second intervention phase was implemented after two days of return to baseline. Student displays of academic engagement and disruptive behavior were recorded during both phases. During intervention, the teacher gave the students a choice of which order they completed the centers. The teacher handed out a checklist to each student and the students wrote their names on the checklist. The teacher then put all of the checklists into a box and

randomly selected one at a time (see checklist example in Appendix A). When the student's checklist was selected, the student chose which center to work on first. This procedure was done to ensure that all of the students did not go to one center at the same time and that there was enough space for everyone at each center. Once each student had chosen his or her first center, the teacher dismissed the students to begin work at their selected center. The student were given one hour to complete the work from all of the centers. At each center, the students worked on the task assigned with help from the instructional aide and the teacher. Once a student finished the assigned task, he or she took the work and the checklist to the teacher or an instructional . The teacher or aide checked the work and signed the appropriate place on the student's checklist to show that the work had been completed. The student then selected his or her next center. During both intervention phases, the teacher also allowed the students to sit in their individual seats to complete work. Students continued to report to the instructional aide in charge of their chosen center or to the teacher when they completed their work.

### **Data Collection and Analysis**

**Dependent measures.** The dependent variables in the study included academic engagement and disruptive behavior. Academic engagement is defined as attending to the assigned task, asking questions of the teacher that facilitate understanding, and working on assigned work. Disruptive behavior is defined as leaving the seat or classroom without permission, talking out of turn, and making noise that disturbs other people in the class. Observational data was collected using a 30-second whole interval recording method for academic engagement and a 30-second partial interval recording method for disruptive behavior. For each interval, the researcher recorded a (+) if the

student displayed academic engagement during the entire interval and a (-) if the student was not engaged at any time during the interval. In addition, the researcher reported an (x) for each interval in which the student displayed disruptive behavior during any part of the interval. The number of intervals in which the student was academically engaged were added and divided by the total number of intervals (60) in order to determine the percent of intervals that the student displayed academic engagement. The same procedure was followed for disruptive behavior. All intervals in which disruptive behavior was recorded were added and divided by the total to yield a percent of intervals that contained disruptive behavior. Observations were conducted daily during all phases when the class participated in the all-block time.

**Interobserver agreement (IOA).** During 20% of the observations of both the baseline and intervention phases, a second researcher completed observations during the scheduled time. These observations included one observation during the initial baseline phase, one observation during the first intervention phase, and one observation during the second intervention phase. The second observer was a school psychologist on staff at the school who was trained by the primary researcher prior to the beginning of the study. The second observer followed the same recording procedures as the primary researcher, recording a (+) for intervals in which the student displayed academic engagement during the entire interval, a (-) for intervals in which the student did not display academic engagement during the entire interval, and recorded instances of disruptive behavior by marking an (x) in the appropriate interval. Once the observation was completed, the primary researcher's recording form was compared with the secondary observer's recording form. The number of intervals that showed agreement between the two

observers were added and divided by the total number of intervals (60) and then multiplied by 100, thus giving a percent of intervals in which the two observers agreed on the behaviors exhibited by the students for both dependent variables.

**Treatment integrity.** During each observation, treatment integrity was reported using a component checklist. During baseline phases, the component checklist consisted of checking that a choice was not offered to the students during their all-block time. During intervention phases, the component checklist consisted of whether the choice was offered. This information was recorded for all observations.

**Social validity.** In order to assess social validity, the teacher completed the *Usage Rating Profile – Intervention Survey* during the first baseline phase and again after the completion of the second intervention phase. Questions included whether the intervention was an effective choice, whether the teacher would be able to allocate enough time to implement the intervention, whether the intervention was a fair way to handle a student's behavior problem(s), and whether the teacher had a positive attitude about implementing the intervention. The teacher circled whether he strongly disagreed, disagreed, slightly disagreed, slightly agreed, agreed, or strongly agreed with each statement. In addition, the teacher was interviewed by the primary researcher after the conclusion of the study. He was asked whether the intervention was valuable in his classroom, whether the intervention was feasible or difficult to implement, and whether he intended to implement the intervention during different parts of the school day.

## Chapter 4: Results

Data was analyzed for each student pertaining to his or her disruptive behavior and academic engagement across the four phases of Baseline 1, Intervention 1, Baseline 2, and Intervention 2. Visual analysis of the data included a description of within phase data for each phase for each student, including descriptive statistics, trend, and level. Absolute level change, which consists of finding the difference between the first data point of the new phase and the last data point of the previous phase, relative level change, which compares the medians of the two adjacent phases, changes in trend, and the percentage of non-overlapping data points (PND) between phases for each student was used to determine the effectiveness of implementing and withdrawing the intervention for each student.

Data were collected over 16 observation sessions following a withdrawal design (ABAB). The initial baseline phase (Baseline 1) consisted of a total of eight observation sessions. The intervention was introduced for all students on the 9<sup>th</sup> session and withdrawn on the 12<sup>th</sup> session. It was reintroduced on the 14<sup>th</sup> observation session. Observations occurred daily when the class was participating in all-block time, with the exception of the first three sessions, which occurred during the class's math instructional time. On one day during all-block, the class was watching a movie and having a pizza party, so observations were not conducted on that day. Figure 1 shows an increase of academic engagement behaviors and a decrease in disruptive behaviors for each student upon implementation of the intervention. This section contains a description of the results for each student during each stage of the study.

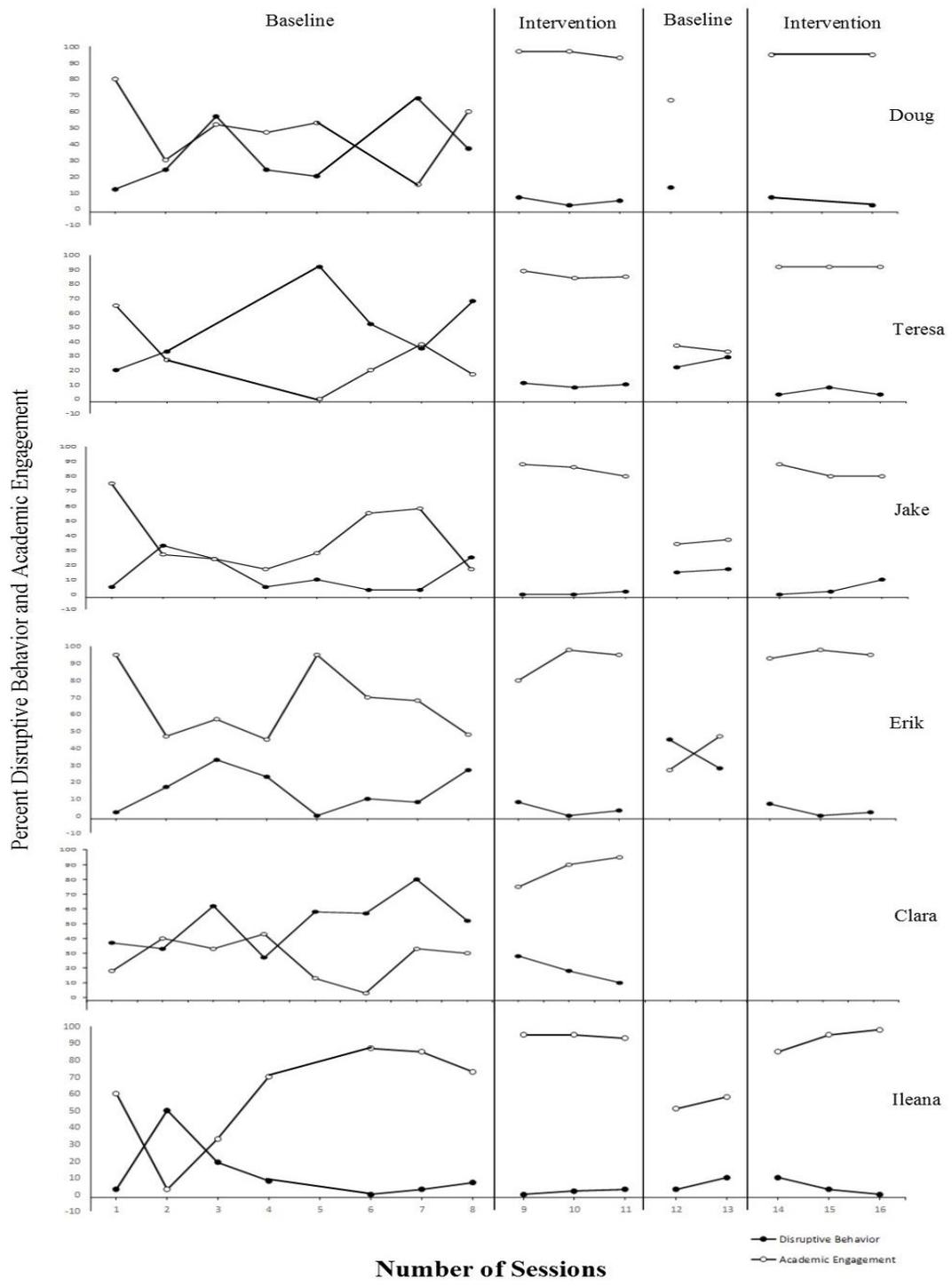


Figure 1. Disruptive Behavior and Academic Engagement

## **Doug**

### *Baseline 1*

Doug was present for seven of the eight Baseline 1 observation. Data on his academic engagement and disruptive behavior did not present a stable baseline. Doug demonstrated disruptive behaviors 12-68% of the time, with a mean of 34.57% and an accelerating trend. Five out of the seven data points for disruptive behaviors fell within the range of 10-40%, with the other two data points fell within the 55-70% range. Thus, most of Doug's disruptive behaviors fell within the 10-40% range, with two points as outliers. See Table 2 for the mean, standard deviation, median, and range for Doug's disruptive behaviors. During the Baseline 1 phase, Doug's academic engagement ranged from 15-80% of observed intervals, with a mean of 48.14% and a decelerating trend. Like Doug's disruptive behavior, most of Doug's academic engagement fell within a much smaller range (30-60%), with two data points as outliers. One data point indicated that Doug demonstrated disruptive behavior during 80% of observed intervals, while the other data point demonstrated disruptive behavior in 15% of observed intervals. During baseline, Doug appeared to attend to his academic work about half of the time. See Table 3 for the mean, standard deviation, median, and range for Doug's academic engagement behaviors.

### *Intervention 1*

Upon intervention, Doug's disruptive behavior and academic engagement measures immediately moved to stable, improved levels. During the first intervention phase, Doug exhibited disruptive behaviors during 2-7% of the observed intervals, with a mean of 4.67% and a zero celerating trend. When comparing the median values of

Doug's disruptive behaviors during the first baseline phase and the first intervention phase, Doug showed an improvement in his disruptive behaviors. There was also a change in the trend from accelerating to zero celerating. The percentage of non-overlapping data points (PND) was 100%, indicating that the intervention had a strong effect on Doug's disruptive behaviors. Doug's level change, trend, and PND values for disruptive behavior are shown in Table 4.

Doug's data from the Intervention 1 phase was also highly stable as Doug demonstrated academic engagement behavior 93-97% of the observed intervals, with a mean of 95.67% and a decelerating trend. Doug had a relative level change between Baseline 1 and Intervention 1 of 44% and demonstrated an improvement in his academic engagement behavior. He did not show a change in trend between the two phases, and his trend remained decelerating in the intervention phase. As with his disruptive behavior, the PND was 100%, indicating a strong intervention effect. Doug's level change, trend, and PND values for academic engagement behavior are shown in Table 5.

### *Baseline 2*

Doug was present for one of the two observation sessions during the Baseline 2 phase. After the intervention had been withdrawn, Doug showed disruptive behaviors during 13% of the observed intervals and academic engagement behaviors during 67%. His absolute level change, or the change between his first Baseline 2 data point and his last Intervention 1 data point, for disruptive behaviors was 8% and indicated a deterioration in this area. Similarly, his absolute level change in his academic engagement behaviors was 26% and also showed a deterioration in his academic engagement behaviors. The PND for both variables were 100, indicating that

withdrawing the intervention had a strong effect on Doug's disruptive behaviors and academic engagement. PND, level change, and trend change for disruptive behaviors and academic engagement are shown in Tables 4 and 5, respectively.

### *Intervention 2*

Doug was present for two out of the three observation sessions during the second intervention phase of the study. When the intervention was reintroduced, Doug's disruptive behaviors and academic engagement once again stabilized and improved. During the Intervention 2 phase, Doug demonstrated disruptive behaviors during 2-7% of the time, with a mean of 3% and a decelerating trend. He demonstrated academic engagement behavior during 95% of observed intervals during both sessions. Comparing median values from the Baseline 2 and Intervention 2 phases yields a relative level change of 8.5% for disruptive behaviors and 28% for academic engagement, both of which were improving. The PND for both behaviors between Baseline 2 and Intervention 2 were also 100%, indicating that reintroducing the intervention had a strong effect on Doug's disruptive behaviors and academic engagement.

## **Teresa**

### *Baseline 1*

Teresa was present for six of the eight observations sessions during the initial baseline phase. Her disruptive behavior ranged from 20-92% of observed interval and was thus unstable. The mean of Teresa's disruptive behaviors was 50% and the trend was accelerating. Four of Teresa's data points for disruptive behavior fell within 33-68% of the observed intervals. During one observation Teresa demonstrated disruptive behavior during 20% of observed intervals and during another she demonstrated

disruptive behavior during 92% of observed intervals. Teresa's exhibitions of disruptive behaviors rose slightly during the first two data points, then peaked at 92%, fell to previous levels, and then rose again to 68%. The data also indicates an accelerating trend in disruptive behavior during the initial baseline phase, as well as a deteriorating level change, suggesting that Teresa's disruptive behavior became more frequent. Teresa's mean, median, and range for disruptive behavior is shown in Table 2.

Table 2

*Mean, Standard Deviation, Median, and Range of Disruptive Behaviors*

Student	Baseline 1	Intervention 1	Baseline 2	Intervention 2
<b>Doug</b>				
Mean (SD)	34.57 % (20.7)	4.67% (3.53)	13% (13)	3% (3.53)
Median	24 %	5%	13%	2%
Range	12 – 68 %	2 – 7%	13%	2 – 7%
<b>Teresa</b>				
Mean (SD)	50% (26.48)	9.67% (1.52)	25.5% (4.95)	4.67% (2.89)
Median	43.5%	10%	25.5%	3%
Range	20 – 92%	8 – 11%	22 – 29%	3 – 8%
<b>Jake</b>				
Mean (SD)	13.5% (11.95)	0.67% (1.15)	16% (1.41)	4% (5.29)
Median	7.5%	0%	16%	2%
Range	3 – 33%	0 – 2%	15 – 17%	0 – 10%
<b>Erik</b>				
Mean (SD)	15% (11.98)	3.67% (4.04)	36.5% (12.02)	3% (3.61)
Median	13.5%	3%	36.5%	2%
Range	0 – 33%	0 – 8%	28 – 45%	0 – 7%
<b>Clara</b>				
Mean (SD)	50.75% (17.5)	18.67% (9.02)	Absent	Absent
Median	54.5%	18		
Range	27 – 80%	10 – 28%		
<b>Ileana</b>				
Mean (SD)	12.85% (17.49)	3.67% (1.53)	6.5% (4.95)	3% (5.13)
Median	7%	3%	6.5%	2%
Range	0 – 50%	0 – 3%	3 – 10%	0 – 10%

### *Intervention 1*

Introduction of the intervention coincided with an immediate improvement in Teresa's disruptive behavior. During the first intervention stage, Teresa demonstrated disruptive behaviors during 8-11% of observed intervals, with a mean of 9.67% and a zero celerating trend. The level also indicated stability of the data as 100% of the data points fell within 20% of the median. The absolute level change between the first baseline stage and the first intervention stage was 57%, indicating a very strong immediate improvement in Teresa's disruptive behaviors. The relative level change between the two phases was 33.5%, indicating a strong improvement throughout the entire phase. Likewise, the change in trend went from accelerating during Baseline 1 to zero celerating during Intervention 1, indicating a very stable effect. Finally, the PND across the two phases was 100%, suggesting that the implementation of the intervention had a strong effect on Teresa's disruptive behaviors. The level change, trend, and PND are illustrated in Table 4.

After introduction of the intervention, Teresa's measures of academic engagement also stabilized and improved. During the first intervention phase, Teresa demonstrated academic engagement behaviors during 84-89% of observed intervals, with a mean of 86%. This data also was highly stable with 100% of data points falling within 20% of the median and a zero celerating trend. The absolute level change of 72% also indicates a very strong immediate improvement in Teresa's academic engagement, and the relative level change of 65% indicates a strong improvement during the intervention phase. The trend change also indicates a shift from a deceleration during Baseline 1 to a zero celeration during Intervention 1. As with the data for disruptive behavior, the PND

between the initial baseline phase and the initial intervention phase was 100% for academic engagement, indicating a very strong effect. The level change, trend, and PND are shown for academic engagement in Table 5.

### *Baseline 2*

After the intervention was withdrawn, Teresa demonstrated an increase in disruptive behaviors. During the second baseline phase, Teresa engaged in disruptive behaviors during 22-29% of observed intervals, with a mean of 25.5%. The data indicated high stability with 100% of data points falling within 20% of the median and a slightly accelerating trend. Removal of the intervention resulted in an absolute level change of 12% and a relative level change of 15.5%, indicating a moderate deterioration in Teresa's disruptive behaviors. The trend changed from a zero celerating trend in the first intervention phase to an accelerating trend in the second baseline phase. PND was 100%, indicating that removing the intervention had a significant effect on Teresa's disruptive behaviors.

Teresa's measures of academic engagement also decreased once the intervention was withdrawn. During the second baseline phase, Teresa was academically engaged during 33-37% of observed intervals, with a mean of 25.5%. 100% of data points fell within 20% of the median, indicating high stability. There was also a slight decelerating trend during this phase, indicating a deterioration of Teresa's academic engagement behaviors. The absolute level change between the Intervention 1 and Baseline 2 phases was 48% and the relative level change was 50%, also indicating a strong effect of removal over time. The trend in Teresa's academic engagement also went from zero celerating during Intervention 1 to decelerating during Baseline 2. The PND of 100%

further indicates the strong effect of withdrawing the intervention on Teresa's academic engagement.

### *Intervention 2*

Teresa's disruptive behaviors declined once the intervention was reintroduced. During the second intervention phase, Teresa demonstrated disruptive behaviors during 3-8% of observed intervals, with a mean of 4.67%. Data were highly stable with 100% of data points falling within 20% of the median and a zero celerating trend. Analysis between the Baseline 2 and Intervention 2 phases also indicates a strong effect both immediately and over time. The absolute level change was 26% and the relative level change was 22.5%. The trend also changed from accelerating during Baseline 2 to zero celerating during Intervention 2. Finally, the PND was 100%, further indicating a strong effect on Teresa's disruptive behaviors once the intervention was reintroduced.

Teresa's academic engagement also increased once the intervention was reintroduced. During the second intervention phase, Teresa displayed academic engagement behaviors during 92% of observed intervals during all three observations. There was an immediate improvement of 59% and an overall improvement of 57% in her academic engagement once the intervention was introduced again. The PND between the Baseline 2 and Intervention 2 phases was also 100%, indicating that reintroducing the intervention had a very strong effect on Teresa's academic engagement.

## **Jake**

### *Baseline 1*

During the initial baseline phase, a stable level of Jake's disruptive behavior was not reached. During this phase, Jake exhibited disruptive behavior in 3-33% observed

intervals with a mean of 13.5% and with a decelerating trend. Jake was present for all eight of the observed sessions, and during half of those sessions, disruptive behavior was shown in 3-5% of observed intervals. Jake also demonstrated heightened rates of disruptive behavior in three sessions, when he engaged in disruptive behavior during 24-33% of the observed intervals. Finally, during one session, Jake demonstrated disruptive behavior during 10% of the observed intervals. Thus, Jake's disruptive behavior was stable in the 3-5% range for most observations, but also consisted of two peaks during the second and eight observation sessions. The mean, median, and range of Jake's disruptive behavior is shown in Table 2.

### *Intervention 1*

During the first intervention phase, Jake's disruptive behavior dropped to 0-2% of observed intervals and a mean of 0.67% and a slightly accelerating trend. Analysis of the change between the first baseline phase and the first intervention phase indicate that the intervention was effective in reducing Jake's disruptive behavior immediately and over time. The absolute level change, which gives an estimate of the immediate effect of the intervention was 25% and indicated an improvement in Jake's disruptive behavior. The relative level change, which gives an estimate of the change over the course of the next phase was 6.5%, indicating a moderate effect over time. The trend changed from a decelerating trend to a slightly accelerating trend due to the fact that Jake displayed disruptive behaviors during 0% of the observed intervals during the first two observations during the Intervention 1 phase and during 2% of the observed intervals during the last observation session. Level change, trend, and PND for Jake's disruptive behavior are shown in Table 4.

Table 3

*Mean, Standard Deviation, Median, and Range of Academic Engagement*

Student	Baseline 1	Intervention 1	Baseline 2	Intervention 2
<b>Doug</b>				
Mean (SD)	48.14% (20.91)	95.67% (2.31)	67%	95% (0)
Median	52 %	97%	67%	95%
Range	15 – 80%	93 – 97%	67%	95%
<b>Teresa</b>				
Mean (SD)	27.83% (22.09)	86% (2.65)	35% (2.83)	92% (0)
Median	23.5%	85%	35%	92%
Range	0 – 65%	84 – 89%	33 – 37%	92%
<b>Jake</b>				
Mean (SD)	37.63% (21.87)	84.67% (4.16)	35.5% (2.12)	82.67% (4.62)
Median	27.5%	86%	35.5%	80%
Range	17 – 75%%	80 – 88%	37 – 37%	80 – 88%
<b>Erik</b>				
Mean (SD)	65.63% (20.38)	91% (9.64)	37% (14.14)	95.33% (2.52)
Median	62.5%	95%	37%	95%
Range	45 – 95%	80 – 98%	27 – 47%	93 – 98%
<b>Clara</b>				
Mean (SD)	26.63% (13.93)	86.67% (10.41)	Absent	Absent
Median	31.5%	90%		
Range	3 – 43%	75 – 95%		
<b>Ileana</b>				
Mean (SD)	58.71% (30.52)	94.33% (1.15)	54.5% (4.95)	92.67% (6.81)
Median	70%	95%	54.5%	95%
Range	3 – 87%	93 - 95	51 – 58%	85 – 98%

Jake's measure of academic engagement also changed upon implementation of the intervention. During the first intervention phase, Jake's demonstrated behaviors associated with academic engagement during 80-88% of the observed intervals with a mean of 84.67 and an accelerating trend. The data was highly stable with 100% of data points falling within 20% of the median. Analysis of level change indicated an improvement in Jake's academic engagement both immediately, as evidenced by the

absolute level change of 71%, and over time, as indicated by the relative level change of 44.5%. The trend also remained as a decelerating trend, due to the fact that Jake's academic engagement actually decreased each day during the first intervention phase. PND between the initial baseline and intervention phases was 100%, indicating a strong effect of the intervention on Jake's disruptive behavior.

### *Baseline 2*

Withdrawal of the intervention resulted in an increase of Jake's disruptive behaviors during the Baseline 2 phase. Jake demonstrated disruptive behaviors in 15-17% of observed intervals during the second baseline phase, with a mean of 16 and an accelerating trend. Data was highly stable during this phase with 100% of data points falling within 20% of the median. Analysis of the level change between the Intervention 1 phase and the Baseline 2 phase indicated that Jake's disruptive behavior deteriorated moderately immediately and over time, with an absolute level change of 13 and a relative level change of 16. The trend also remained accelerating, but with a stronger acceleration than had been calculated during the Intervention 1 phase. PND between the two phases was 100%, indicating that removing the intervention had a strong effect on Jake's disruptive behavior. Level change, trend change, and PND for disruptive behavior are shown in Table 4.

Jake's measures of academic engagement also decreased when the intervention was withdrawn. During the second baseline phase, Jake demonstrated academic engagement behaviors during 34-37% of recorded intervals. The data was highly stable with an accelerating trend. Analysis of the level change between the first intervention phase and the second baseline phase indicated an immediate deterioration of Jake's

academic engagement of 46% and a deterioration over the length of the phase of 50.5%. The trend in both phases was about the same, with both the intervention and return to baseline phase having a slight accelerating trend. PND between the two phases was 100%, indicating that removing the intervention had a strong effect on Jake's academic engagement. PND, level change, and trend change of Jake's academic engagement are shown in Table 5.

### *Intervention 2*

Once the intervention was reintroduced, Jake's displayed disruptive behaviors in 0-10% of the observed intervals, with a mean of 4% and an accelerating trend. Jake's disruptive behavior was 0% during the first observation, 2% in the second observation, and 10% of the third observation. Although these values represent a reduction overall in disruptive behaviors upon reimplementation of the intervention, they also represent an accelerating trend in this variable. Level change analysis indicates that the intervention had a moderate effect on Jake's disruptive behavior both immediately and over time. The absolute level change was 17 and the relative level change was 14. PND for the two phases was 100%, indicating a strong effect of reintroducing the intervention.

During the second intervention phase, Jake displayed academic engagement behaviors in 80-88% of observed intervals, with a mean of 82.67 and a slightly decelerating trend. Jake demonstrated academic engagement during 88% of the intervals in the first observation and during 80% of the intervals observed in the following two observations. This indicates a decelerating trend, although the level change suggests an improvement in Jake's academic engagement overall. The absolute level change between the Baseline 2 and Intervention 2 phases was 52%, suggesting that reintroducing the

intervention had a strong immediate effect on Jake's academic engagement. The relative level change was 44.5%, indicating a strong improvement in Jake's academic engagement over time. PND was 100%, which also indicates a strong effect of the intervention on Jake's academic engagement.

## **Erik**

### *Baseline 1*

Erik's disruptive behavior showed great variability during the initial baseline phase. During the Baseline 1 phase, Erik engaged in disruptive behavior during 0-33% of observed intervals, with a mean of 15% and a zero-celerating trend. During half of the observation sessions, Erik was disruptive during 0-10% of the observed intervals. During the other half of observation sessions, Erik was disruptive during 17-27% of observed intervals. Analysis of baseline data shows an accelerating trend during the first three observation sessions, a decelerating trend in between session 3 and session 5, and then another accelerating trend from session 5 to session 8. The mean, standard deviation, median, and range of Erik's disruptive behavior is shown in Table 2.

Erik's academic engagement behavior was also variable during the initial baseline phase. During this phase, Erik's academic engagement behavior was displayed in 45-95% of observed intervals, with a mean of 65.63 and a decelerating trend. Analysis of the data reveals that Erik demonstrated academic engagement during 95% of observed intervals during two of the observation sessions, 68-70% during observed intervals in two observation sessions, and a range of 45-57% during four of the observation session. The graph of the first baseline phase shows an initial day of 95% academic engagement with a decline over the next three days to a low of 45% academic engagement. On the

following day there is another day of 95% academic engagement, followed by another decline over the next four days to 48%. Thus, the trends show a deceleration, followed by a quick acceleration, followed by a final deceleration in academic engagement. The mean, standard deviation, median, and range for academic engagement are shown in Table 3.

#### *Intervention 1*

Erik's disruptive behavior decreased once the intervention was implemented. During the Intervention 1 phase, Erik displayed disruptive behavior during 0-8% of the observed intervals, with a mean of 3.67% and a decelerating trend. His disruptive behavior on the first day was shown during 7% of the intervals. Over the following two days, Erik demonstrated disruptive behavior in 0% of observed intervals and in 2% of observed intervals in the third observation. Analysis of the level change between the two adjacent phases reveals that there was an absolute level change of 19% and a relative level change of 6%, both of which indicated an improvement in Erik's disruptive behavior. Trend also changed from zero acceleration during Baseline 1 to deceleration in Intervention 1. Finally, the PND between the two phases was 100%, indicating that implementing the intervention had a strong effect on Erik's disruptive behavior. PND, level change, and trend are shown in Table 4.

Table 4

*Level Change, Trend Change, and PND for Disruptive Behavior*

Student	B1 – I1	I1 – B2	B2 – I1
<b>Doug</b>			
Absolute Level Change	30%	8%	6%
Relative Level Change	32%	8%	8.5%
Trend Change	A to 0	--	--
PND	100%	--	--
<b>Teresa</b>			
Absolute Level Change	57%	12%	26%
Relative Level Change	33.5%	15.5%	22.5%
Trend Change	A to 0	0 to A	A to 0
PND	100%	100%	100%
<b>Jake</b>			
Absolute Level Change	25%	13%	17%
Relative Level Change	6.5%	16%	14%
Trend Change	A to A	A to A	A to A
PND	100%	100%	100%
<b>Erik</b>			
Absolute Level Change	19%	43%	21%
Relative Level Change	6%	33.5%	34.5%
Trend Change	0 to D	D to D	D to D
PND	100%	100%	100%
<b>Clara</b>			
Absolute Level Change	24%	--	--
Relative Level Change	49.5%	--	--
Trend Change	A to D	--	--
PND	67%	--	--
<b>Ileana</b>			
Absolute Level Change	7%	0%	0%
Relative Level Change	0%	3.5%	4.5%
Trend Change	D to 0	0 to A	A to D
PND	0%	50%	33%

Erik's academic engagement increased when the intervention was introduced.

During the Intervention 1 phase, Erik demonstrated academic engagement during 80-98%

of observed intervals, with a mean of 91% and an accelerating trend. Erik's academic engagement jumped from 80% to 98% between the first and second day of the intervention. Erik was academically engaged during 95% of the intervals during the last observation. Level change analysis indicates a moderate immediate effect, as evidenced by the absolute level change of 32% between the first baseline and first intervention phases, and a moderate effect, as evidenced by the relative level change of 26%. Trend changed from a decelerating trend in Baseline 1 to an accelerating trend in Intervention 1. PND was 100% between the two phases, indicating that the introduction of the intervention had a strong effect on Erik's academic engagement. Level change, trend, and PND for academic engagement are illustrated in Table 5.

#### *Baseline 2*

Erik's disruptive behavior increased when the intervention was withdrawn. During the second baseline phase, Erik demonstrated disruptive behavior during 28-45% of observed intervals, with a mean of 36.5% and a decelerating trend. Level change analysis indicates a strong immediate effect of removing the intervention on Erik's disruptive behavior, with an absolute level change of 43%. The overall effect is lower, as is indicated by the relative level change of 33.5%. There was no change in trend between the Intervention 2 and Baseline 2 phases, as both were decelerating. The PND of 100% indicates that withdrawing the intervention had a strong effect on Erik's disruptive behavior.

Erik's academic engagement declined when the intervention was withdrawn. During the Baseline 2 phase, Erik demonstrated academic engagement behavior during 27-47% of observed intervals, with a mean of 37, and an accelerating trend. During the

first observation session, Erik's academic engagement was 27%, which was lower than at any other time during the observed intervals. During the second session, it increased to 47%, thus creating the accelerating trend. Analysis of the two adjacent phases indicates that there was a very strong immediate effect on Erik's academic engagement by taking away the intervention, evidenced by the absolute level change of 68%. The relative level change of 58% also indicates a strong overall effect of removing the intervention. Finally, the PND was 100%, also showing that removing the intervention had a strong effect on Erik's academic engagement.

### *Intervention 2*

When the intervention was reintroduced, Erik's disruptive behavior once again declined. During the final intervention phase, Erik displayed disruptive behavior during 0-7% of observed intervals, with a mean of 3 and a decelerating trend. Level change analysis between the Baseline 2 phase and the Intervention 2 phase indicates that there was an absolute level change of 21% and a relative level change of 34.5%, and a decelerating trend. PND was 100%, suggesting that suggesting that the reimplementation of the intervention had a strong effect on Erik's disruptive behavior.

Erik's academic engagement behavior also increased upon reimplementation of the intervention. During the final intervention phase, Erik was academically engaged for 93-98% of observed intervals, with a mean of 95.33% and a zero celerating trend. Analysis of the adjacent phases also indicated that there was a strong immediate effect of reimplementing the intervention, as shown by the absolute level change of 46%, and a very strong relative level change of 58%. Trend changed from accelerating in Baseline 2

to zero celerating in Intervention 1. Finally, PND was 100%, indicating that reintroducing the intervention had a strong effect on Erik's academic engagement.

## **Clara**

### *Baseline 1*

Clara's disruptive behavior was not stable during the initial baseline phase, with 50% of data points falling within 20% of the median. Clara demonstrated disruptive behavior during 27-80% of the observed intervals, with a mean of 50.75% and an accelerating trend. During Baseline 1, Clara had four data points that fell within the range of 52-62% and three data points that fell between 27-37%. She also had one day when she displayed disruptive behavior during 80% of the observed intervals. The mean, standard deviation, median and range for Clara's disruptive behavior are shown in Table 2.

Clara's academic engagement also did not reach stability, with 38% of data points falling within 20% of the median. During Baseline 1, Clara demonstrated academic engagement during 3-54% of the observed intervals, with a mean of 26.63% and a decelerating trend. Clara's academic engagement was between 30-43% during five of the eight intervals observed. She also had some days when academic engagement was lower, including one day with 18% academic engagement, one with 13%, and one with 3%. The mean, standard deviation, median and range of Clara's academic engagement are shown in Table 3.

### *Intervention 1*

Clara's disruptive behavior decreased when the intervention was introduced. During the Intervention 1 phase, Clara displayed disruptive behavior in 10-28% of

observed intervals, with a mean of 18.67 and a decelerating trend. Analysis of the changes between the initial baseline phase and the initial intervention phase indicate that the intervention had a moderate immediate effect, with an absolute level change of 24% and a stronger effect over time, with a relative level change of 49.5%. The trend also changed from an accelerating trend in Baseline 1 to a decelerating trend in Intervention 1. PND was 67%, with one overlapping data point, indicating that the implementation of the intervention had a moderate effect on Clara's disruptive behavior. Level change, trend change, and PND for disruptive behavior are illustrated in Table 4.

Clara's academic engagement increased when the intervention was introduced. During the Intervention 1 phase, Clara demonstrated academic engagement 75-95% of observed intervals, with a mean of 86.67% and an accelerating trend. As with Clara's disruptive behaviors, Clara's academic engagement improved over time, with an absolute level change of 45% and a relative level change of 68.5%. Trend also changed from a decelerating trend in the initial baseline phase to an accelerating trend in the intervention phase. PND between the two phases was 100%, indicating that the implementation of the intervention had a very strong effect on Clara's academic engagement.

#### *Baseline 2 & Intervention 2*

Clara was absent for the two phases that included the withdrawal of the intervention and its reintroduction. Therefore, any conclusion that can be made about the intervention's effect on her disruptive behavior and academic engagement are correlational in nature.

Table 5

*Level Change, Trend Change, and PND for Academic Engagement*

Student	B1 – I1	I1 – B2	B2 – I1
Doug			
Absolute Level Change	37%	26%	28%
Relative Level Change	44%	30%	28%
Trend Change	D to D	--	--
PND	100%	--	--
Teresa			
Absolute Level Change	72%	48%	59%
Relative Level Change	65%	50%	57%
Trend Change	D to 0	0 to D	D to 0
PND	100%	100%	100%
Jake			
Absolute Level Change	71%	46%	52%
Relative Level Change	44.5%	50.5%	44.5%
Trend Change	D to A	A to A	A to D
PND	100%	100%	100%
Erik			
Absolute Level Change	32%	68%	46%
Relative Level Change	26%	58%	58%
Trend Change	D to A	A to A	A to 0
PND	100%	100%	100%
Clara			
Absolute Level Change	45%	--	--
Relative Level Change	68.5%	--	--
Trend Change	D to A	--	--
PND	100%	--	--
Ileana			
Absolute Level Change	32%	68%	46%
Relative Level Change	10%	40.5%	40.5%
Trend Change	A to 0	0 to A	A to A
PND	100%	100%	100%

## **Ileana**

### *Baseline 1*

Ileana's data during the initial baseline phase was variable. She demonstrated disruptive behaviors during 0-50% of observed intervals, with a mean of 12.85% and decelerating trend. Ileana was present for 7 of the eight observational sessions in the Baseline 1 phase. During five of those sessions, she displayed disruptive behavior in 0-8% of observed intervals. During one session, she was disruptive in 19% of observed intervals, and in one session she was disruptive in 50% of observed intervals. Both of the elevated observations occurred while observations were being conducted during the math instructional hour. After the shift to conducting observations in the all-block time, Ileana's disruptive behavior ranged from 0-8% of observed intervals and was more stable. The mean, standard deviation, median, and range of Ileana's disruptive behavior is shown in Table 2.

Ileana's academic engagement was also variable during the initial baseline phase. In Baseline 1, Ileana's academic engagement ranged from 3-87% of observed intervals, with a mean of 58.71 and an accelerating trend. During all-block, Ileana's academic engagement ranged from 70-87% of observed intervals and showed increased stability. The mean, median, standard deviation, and range of Ileana's overall academic engagement is shown in Table 3.

### *Intervention 1*

Ileana's disruptive behaviors decreased slightly when the intervention was introduced. During the first intervention phase, Ileana's demonstrated disruptive behaviors in 0-3% of observed intervals, with a mean of 3.67% and a zero celerating

trend. In transitioning from the initial baseline phase to the initial intervention phase, Ileana's disruptive behaviors improved by 7% immediately. However, the relative level change indicated that there was no improvement in Ileana's disruptive behaviors over time. The trend also changed from deceleration to zero celerating. Finally, the PND between the two phases was 0%, indicating that all of the data points from the intervention phase overlapped with the range from the initial baseline phase, suggesting that the implementation of the intervention was not effective in changing Ileana's disruptive behaviors.

Ileana's academic engagement increased when the intervention was introduced. During the first intervention phase, Ileana demonstrated academic engagement in 93-95% of observed intervals, with a mean of 94.33% and a zero celerating trend. Analysis of adjacent phases indicated that Ileana's academic engagement improved immediately after the intervention was introduced, as is evidenced by the absolute level change of 32%. The relative level change between phases was 10%, illustrating the change in Ileana's academic engagement over time once the intervention was implemented. The data also showed a change in trend from accelerating during the initial baseline phase to zero celeration during the first intervention phase. The PND was 100%, and this indicates that the implementation of the intervention did have an effect on Ileana's academic engagement.

### *Baseline 2*

Ileana's disruptive behaviors increased mildly when the intervention was withdrawn. During the Baseline 2 phase, Ileana exhibited disruptive behaviors in 3-10% of observed intervals, with a mean of 6.5% and an accelerating trend. Analysis of the

change between adjacent phases indicates that there was no immediate change in Ileana's disruptive behavior and a relative level change of 3.5%. The trend changed from zero celerating in the Intervention 1 phase to accelerating in the Baseline 2 phase. The PND was 50%, indicating that withdrawing the intervention had a moderate effect on Ileana's disruptive behaviors.

Ileana's academic engagement decreased when the intervention was withdrawn. During the second baseline phase, Ileana demonstrated academic engagement in 51-58% of the observed intervals, with a mean of 54.5% and an accelerating trend. The absolute level change of 68% indicates that withdrawing the intervention had a strong effect on Ileana's academic engagement, immediately. Likewise, the relative level change of 40.5% indicates a strong effect over time. The trend changed from zero celerating to accelerating. The PND between the two phases was 100%, suggesting that the withdrawal of the intervention had a strong effect on Ileana's academic engagement.

### *Intervention 2*

During the final intervention phase, Ileana engaged in disruptive behavior during 0-10% of the observed intervals, with a mean of 3 and a decelerating trend. During the last observation in Baseline 2 and the first observation in Intervention 2, Ileana demonstrated disruptive behavior in 10% of observed intervals. Therefore, the absolute level change between the two phases was 0%, suggesting that the reintroduction of the intervention had no effect on Ileana's disruptive behavior. The relative level change was 4.5%, indicating a small effect on Ileana's disruptive behavior over time. The trend changed from accelerating in the second baseline phase to decelerating in the second intervention phase. Finally, PND was 33%, indicating that two of the three data points in

the Intervention 2 phase overlapped with data points from the Baseline 2 range, further suggesting that the effect of reintroducing the intervention had minimal effect on Ileana's disruptive behavior.

After the intervention was reintroduced, there was an increase in Ileana's academic engagement. During the Intervention 2 phase, Ileana demonstrated academic engagement in 95-98% of observed intervals, with a mean of 92.67% and an accelerating trend. After the intervention was reintroduced, Ileana demonstrated an improvement in her academic engagement immediately, as is evidenced by the absolute level change of 46%, and over time, as is shown by the relative level change of 40.5%. The trend remained accelerating. PND between the two phases was 100%, indicating that reintroducing the intervention had a strong effect on Ileana's academic engagement.

### **Interobserver Agreement**

Interobserver Agreement (IOA) was collected on the sixth, tenth, and fifteenth observation sessions, and included observations during the Baseline 1, Intervention 1, and Intervention 2 phases. IOA for Baseline 1 ranged from 77% to 100%. During the first intervention phase, IOA for disruptive behavior ranged from 88 to 100%. For academic engagement, IOA ranged from 86 to 97%. Finally, IOA for disruptive behavior ranged between 93 and 100% during the final intervention session. During that session, IOA for academic engagement ranged from 88 to 95%. IOA results are shown in Table 6.

### **Treatment Integrity**

Treatment integrity was measured using a Treatment Integrity Checklist. During each baseline observation session, the primary researcher checked the box if a choice was not offered. During each intervention session, a box was checked if a choice was offered.

During all observation sessions in both the Baseline 1 and Baseline 2 phases, treatment integrity was 100% for all sessions except for the third observation session during Baseline 1. During that session, students were offered a choice in their activity and so treatment integrity was 0%. During all observations sessions in the Intervention 1 and Intervention 2 phases, treatment integrity was 100%, indicating that the students were given a choice in all sessions during both intervention phases.

Table 6

*Interobserver Agreement Percentage of Observed Intervals*

Student	Baseline 1	Intervention 1	Intervention 2
Doug			
Disruptive Behavior	Absent	100%	Absent
Academic Engagement		97%	
Teresa			
Disruptive Behavior	77%	92%	93%
Academic Engagement	77%	90%	92%
Jake			
Disruptive Behavior	95%	100%	98%
Academic Engagement	78%	86%	88%
Erik			
Disruptive Behavior	88%	97%	100%
Academic Engagement	78%	90%	90%
Clara			
Disruptive Behavior	90%	88%	Absent
Academic Engagement	97%	92%	
Ileana			
Disruptive Behavior	100%	97%	97%
Academic Engagement	82%	93%	95%

## **Social Validity**

### *Usage Rating Profile-Intervention*

The classroom teacher completed the Usage Rating Profile Intervention (URP-Intervention) social validity questionnaire prior to introducing the intervention for the first time and after the completion of the second intervention phase. The URP-Intervention contains questions that pertain to an intervention's acceptability, the teacher's understanding of the intervention, home school collaboration, feasibility, the system climate, and the need for system support in order to implement the intervention. The teacher rated each statement on a scale from one to six with one indicating "strongly disagree," and six "strongly agree." Results from the URP-Intervention are shown in Figure 2.

Before the intervention was implemented, the classroom teacher rated the statements about acceptability at 5.22, indicating a response in the "agree" to "strongly agree" range that the intervention was acceptable. This rating rose slightly to 5.44 after the completion of the second intervention phase. Questions in this category include whether the teacher thought the intervention was an effective choice for addressing a variety of problems, whether the intervention was a fair way to handle a child's behavior problem, and whether the teacher would have a positive attitude about implementing the intervention.

In understanding of the intervention, the classroom teacher's rating increased from 5.33 before the implementation of the intervention to a 6 or "strongly agree" once the intervention was completed. This indicates that the teacher gained knowledge and understanding of the intervention once it was completed. Questions in this category

included whether the teacher was knowledgeable about the intervention and whether he understood how to use the intervention.

The third category covered by the URP-Intervention questionnaire was home school collaboration. The teacher initially rated this category as a 3, or “slightly disagree,” indicating that collaboration was not necessary in order to implement this intervention. After the completion of the second intervention phase, the teacher rating reduced to a 2, or “disagree.” Questions in this category included whether a positive home-school relationship was necessary in order to implement the intervention, including parental collaboration and ongoing communication with parents.

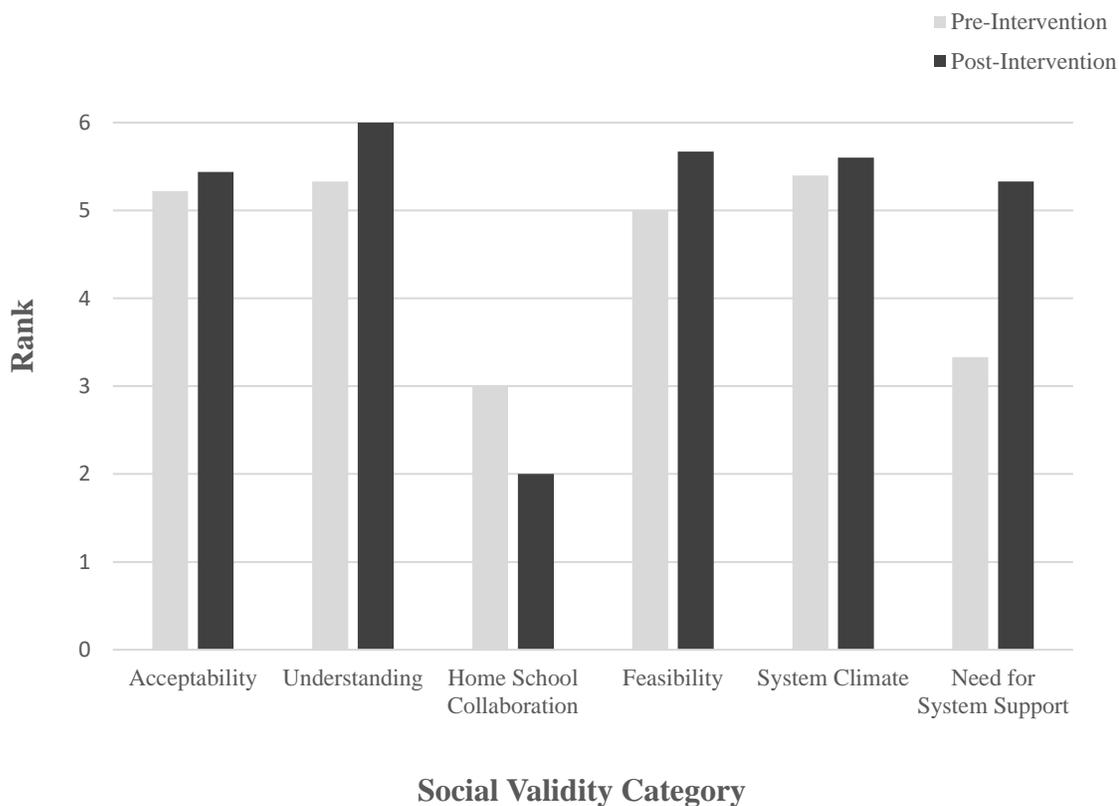


Figure 2. Results of the Usage Rating Profile Social Validity Questionnaire

When asked questions about the feasibility of the intervention, the teacher gave an initial rating of a 5, indicating that the intervention was feasible to implement in his classroom. After completion of the intervention, the teacher increased the rating to 5.66, an improved view of the feasibility of the intervention after one implementation. Questions in this category included whether the teacher would be able to allocate time to implement the intervention, whether the time necessary would be manageable, whether there would be a minimal preparation of materials, and whether the intervention was too complex to carry out.

The teacher was also asked questions that related to system climate, or whether the intervention would be acceptable at school. Questions included whether the administrator would be supportive of the teacher's use of the intervention, whether the intervention is consistent with the school's mission statement, and whether the intervention matches school procedures. Prior to implementing the intervention, the teacher rated this category as 5.4. That rating increased slightly to 5.6 after having implemented the intervention.

The final category measured by the URP-Intervention is system support. This category measures whether the teacher believes he or she could independently implement the intervention, without additional consultation or training. Questions included whether the teacher thought additional resources were needed to implement the intervention, and whether consultative support or additional training was needed. Prior to implementing the intervention, the teacher rated this category as 3.33, or "slightly disagree", indicating the teacher did not feel confident implementing this intervention without guidance and training. However, once the intervention was implemented, the rating increased to 5.33,

suggesting the teacher agreed or strongly agreed that the teacher could independently implement this intervention in the classroom.

### *Interview*

The teacher was also interviewed by the primary researcher about his experiences implementing the intervention and the likelihood that he would use it in the future. The teacher stated that the intervention was valuable to him and that it was useful in helping the students become more academically engaged. He also thought it was a valuable tool for him as a time management strategy. Prior to implementing the intervention, the teacher had to monitor all of the students and determine when they needed to switch centers. When the intervention was implemented, he only had to keep track of which students were going to work specifically with him that day. He also did not have to spend as much time grading because the classroom aides checked all of the students' work as they completed it. The teacher reported that he enjoyed being able to float around the classroom and assist the students as they needed it and to have conversations with them about the journal topics and vocabulary words, which hadn't taken place prior to the intervention. Finally, the teacher reported that the intervention also resulted in an increase in student work completion as the students helped one another finish work more frequently than when the intervention was not in place.

When asked about the feasibility of the intervention, the teacher responded that the intervention was difficult to implement at first because he had to keep track of which centers the students went to in order to make sure that the centers did not become overcrowded. During the first days of the intervention, he had difficulty keeping everything straight and moving the students along to the centers quickly and without delays.

However, once the plan was figured out, he reported that it was easier than the previous routine, and that he would explore using it in different classes and during different parts of the day.

## Chapter 5: Discussion

The purpose of this study was to examine the effects of a choice-making intervention on elementary students with Emotional Disturbance. The study utilized a withdrawal single-subject research design to test the effect that giving students a choice about the order in which they completed their academic assignments had on levels of academic engagement and disruptive behavior. Although data from Baseline 1 was unstable for all students, implementing the intervention produced both an immediate and stable improvement of the students' disruptive behavior and academic engagement. Withdrawal of the intervention also produced an immediate deterioration of both behaviors. The students increased their academic engagement and reduced their disruptive behaviors once the intervention was reintroduced. The following discussion includes an interpretation of the data from each of the four phases of the study, social validity data, a discussion of the limitations of the study, suggestions for future research, and practice implications.

### Interpretation of Results

**Instability during Baseline 1.** During the Baseline 1 phase, data was unstable for all participants. In addition, when IOA data was collected, the percentage of agreement was under 80% for several of the students. Although it is generally recommended that a stable baseline is reached prior to implementation of the intervention (Gast & Ledford, 2009), doing so was not possible in this particular classroom. Several explanations exist for the instability of the Baseline 1 data, including the characteristics of the sample, classroom behavior management practices, and observational difficulties.

First, the student participants in the classroom exhibited a range of behaviors, including hitting, kicking, yelling, distractibility, refusal to follow rules, leaving the seat and classroom without permission, throwing objects, and defying authority. This sample of students illustrates Cullinan's (2003) description of students with ED as exhibiting externalizing behavior and being disruptive, defiant, and aggressive in the school setting. Mattison (2011) also noted that due to many of these behavioral concerns, it is likely that students with ED will be educated outside of the general education setting as they are often in need of smaller class sizes, specially trained teachers and para-professionals, and behavior support services. Hence was the case in the current sample; therefore, variable behavior was not completely unexpected.

Another explanation for the instability of the Baseline 1 results was the classroom environment and behavior management practices. The classroom teacher had several behavior management strategies in place prior to the beginning of this study. For example, students were rewarded with stars on their charts for good behavior and punished with checks on their charts when they exhibited disruptive behavior. During baseline observation sessions, several disruptive behavior outbursts were in reaction to receiving a check, particularly for Teresa and Clara. Since many of the students were easily distracted, arguments and outbursts from one student often led to additional disruptive behaviors from other students in the classroom. In addition, the policy set forth in the classroom was to ignore problem behavior. Doug, Teresa, Clara, and Ileana all experienced episodes of disruptive behavior that lasted for long periods of time before the teacher or one of the classroom aides intervened. These episodes caused extreme points in the baseline data, both in disruptive behavior and academic engagement for all

of the students. For example, on the third day of Baseline 1 observations, Teresa was in the time-out corner during most of the observation. She was disruptive for 92% of observed intervals and was not academically engaged during any intervals. She was not like this during any of the other observations.

Finally, during the initial baseline observations, it was difficult for both the primary researcher and the secondary observer to observe students demonstrating academic engagement. For example, Jake engaged in relatively low rates of disruptive behavior. Most days he also did not demonstrate academic engagement behaviors more than a third of the time. When he was not academically engaged, he usually stared at his book or his work. After one or two observations, it became apparent that Jake was very often not academically engaged but was also not disruptive. The distinction was often difficult to make during the initial baseline phase because of the instability of the classroom. However, during subsequent phases, determining Jake's academic engagement behavior was much more feasible. Prior to the implementation of the intervention, many of the students engaged in disruptive behaviors frequently and the adults spent much of their time redirecting the disruptive students. Therefore, Jake's quiet inattention to his work went largely unnoticed. However, when the intervention was implemented, the classroom became very quiet and the other students needed less redirection. This allowed the adults to notice when Jake was staring into space or staring at his work and they redirected him to his work more often. This redirection made it easier for the observers to identify when Jake was actually academically engaged and when he was simply staring at his work.

Overall, the data from Baseline 1 revealed students whose behavior was very unpredictable, with the exception of Ileana. Most of the students engaged in disruptive behavior more often than they were academically engaged, but not all the time. During some observation times the entire class was distracted and off-task. During other times, such as when the teacher promised a party after all student work was completed, the trend reversed. In addition, individual students were more on task when they worked individually with the teacher or one of the aides. During these sessions, however, one or two students were academically engaged, while several other students demonstrated disruptive behaviors.

Although it is recommended that baseline observations continue until a stable baseline level is reached (Gast & Ledford, 2009), sometimes, as in the case of this study, such stability is never reached, and further investigation only serves to confirm the instability of the baseline data. Such a situation can be viewed as a threat to validity because if the researcher does not know for certain what the behaviors look like prior to implementation, how can he or she know that the intervention was actually effective? Another view of the role of baseline observations, according to Horner and colleagues (2005), is not necessarily to achieve stability, but to establish a pattern that allows for future prediction. In this study, a pattern was established in that behavior was variable for all students throughout the initial baseline, or Baseline 1, phase. This instability was also what created a challenging environment for the teacher, instructional aides, and students. Therefore, it is possible to predict that without an intervention, the behavior instability of the students would have continued.

**Implementing the Intervention.** Horner et al. (2005), write that the effect of an intervention is determined by the change of a behavior that coincides with the implementation of the independent variable, or the intervention. If the behavior changes in a way that was predicted by the researcher upon the introduction of the intervention, then the intervention is determined to be effective. Such was the case once the intervention of allowing the students to choose which of the centers they worked at first was implemented. The introduction of the intervention had an immediate effect on most of the students' disruptive behavior and academic engagement. In general, all of the students' behavior stabilized and became more predictable. This is also evident in the increased rates of interobserver agreement that was achieved during this phase and in the second intervention phase. Most students experienced significant increases in their academic engagement and decreases in their disruptive behaviors. All of the students also expressed satisfaction with the intervention. The intervention possibly had the strongest effect on Clara. Prior to implementing the intervention, Clara's disruptive behavior was very problematic in the classroom. However, once the intervention was implemented, she became more academically engaged and her disruptive behaviors were significantly reduced. Clara's behaviors also improved each day that the intervention was implemented. In addition, Clara completed her assigned work in a fraction of the allotted time, earning her praise from the teacher and aides and admiration from her peers.

Erik was affected differently by the intervention. Erik appeared uncomfortable with the requirement to choose his own activity on the first day. As a result, his levels of disruptive behavior and academic engagement remained similar to what they were during

the last day of Baseline 1. However, after the first day, Erik experienced an increase in academic engagement and a decrease in disruptive behavior that was maintained throughout the rest of the first intervention phase and duplicated during the second intervention phase. Although Erik's reaction to the intervention was unique in the classroom, it is not completely unexpected. As a group, students with ED are less likely than other students to be offered opportunities to make choices (Carter et al., 2010). In other words, students with ED are more likely to become used to having choices and decisions made for them. Therefore, it is understandable that Erik was uncomfortable with the opportunity when it was first given.

For one student, Ileana, the intervention did not have a significant effect on her disruptive behavior as it was already low. However, it was effective in improving her academic engagement. During the last four observations sessions in the first baseline phase, Ileana demonstrated disruptive behavior in 0-8% of observed intervals. Although her disruptive behavior reduced to 0-3% of observed intervals during the first intervention phase, several data points overlapped with the previous phase because her disruptive behavior during the last part of that phase was already low. The effect of the intervention was stronger for Ileana's academic engagement. Thus, the intervention was effective in improving the disruptive behavior and academic engagement for all students in the classroom, even if their levels of disruptive behavior were already low and their levels of academic engagement were already high.

**Withdrawing the Intervention.** The value of the A-B-A-B design utilized in this study is that the intervention can be withdrawn from the participants and reintroduced, thus effectively creating an immediate replication of the intervention and

increasing the validity of the study's results (Gast & Ledford, 2009; Horner et al., 2005). During the Baseline 2 phase, the intervention was withdrawn and the teacher resumed the original routine of all-block time. This had an immediate effect on the disruptive behaviors and academic engagement of the students, although a carryover effect was observed as most of the students' measure of disruptive behavior and academic engagement did not completely return to Baseline 1 levels. When the intervention was withdrawn, Doug, Teresa, Jake, and Erik experienced an immediate increase in their disruptive behavior and decrease in their levels of academic engagement. The withdrawal of the intervention did not have an immediate effect on Ileana's disruptive behavior. The strongest effect was on Erik, who had an absolute level change of 43% when the intervention was withdrawn. During the first Baseline 2 session, Erik expressed anger at returning to the "old way" of participating in the all-block time. Thus, his disruptive behavior during that observation session was higher than at any time during the study. Likewise, his academic engagement was equally affected and was lower than at any time during the study. During the second Baseline 2 observation session, Erik's disruptive behavior and academic engagement returned to Baseline 1 levels. The fact that the students' disruptive behavior and academic engagement both deteriorated at the same time that the intervention was withdrawn, following the predicted pattern, demonstrates the effectiveness of the intervention (Horner et al., 2005). Furthermore, all of the students' behavior was affected by withdrawal of the intervention, just as it had been by the introduction of the intervention in the previous phase. These changes confirm that the change in the students' behavior was likely due to the introduction and withdrawal of the intervention, and not just a continuation of the instability seen in Baseline.

**Reintroducing the Intervention.** Once the intervention was reintroduced, student's disruptive behaviors decreased and an immediate increase was observed in levels of academic engagement levels for all students, also returning to previous intervention levels. The change was immediate and lasted throughout the three observation sessions of the Intervention 2 phase for all six of the students, further strengthening the validity of the research design and the effect of the intervention on the students' disruptive behaviors and academic engagement. The immediacy and magnitude of the change a second time suggests a strong effect overall of the intervention (Gast & Ledford, 2009). Although all of the students demonstrated an increase in their academic engagement and a decrease in their disruptive behaviors after the intervention was reintroduced, Ileana also demonstrated an accelerating trend in her academic engagement and a decelerating trend in her disruptive behaviors. Since Ileana's behaviors during the first intervention phase had remained very stable, this was unique for her. At the beginning of the second intervention phase, Ileana's dog died, and her behavior was affected in that she was more disruptive and less academically engaged than usual. However, through the course of the second intervention phase, her behavior improved to its normal levels. Furthermore, all of the students' academic engagement and disruptive behaviors also improved during this phase in spite of the absence of one of the instructional aides on the second day and the absence of both regular aides and the addition of a substitute aide on the last day. Thus, the intervention demonstrated effectiveness in reducing the disruptive behavior of the students and increasing their academic engagement, even in less than ideal circumstances.

**Instability in Interobserver Agreement.** The theme of instability was also apparent in the interobserver agreement data collected during the study. During Baseline 1 observations, interobserver agreement for disruptive behavior ranged from 77% to 100%. During these observations, interobserver agreement was lowest for Teresa. However, IOA for each of the other students ranged from 88% to 100%, with IOA for Clara, Ileana, and Jake being over 90%. Thus, although the range of IOA suggested poor agreement, observations of Teresa were the only ones that were actually low. Once the intervention was implemented, IOA for each of the students increased, and overall IOA for the project increased. This attests to the stability that was created by the intervention, as overall agreement stabilized and improved just as levels of disruptive behavior and academic engagement stabilized.

### **Social Validity**

Social validity results indicated that the intervention was initially well-supported and valuable to the teacher, and that the value of it grew after implementation. Overall, the teacher increased in his ratings of the intervention in its acceptability, feasibility, his understanding of the intervention, its fit with his school's mission, and in his ability to implement the intervention without support from other professionals. The fact that the teacher increased so dramatically in his confidence of implementing the intervention without support is very important as it relates to the success of the intervention. Several authors identified a lack of teacher training and teacher confidence and buy-in as an obstacle to implementing interventions that seek to promote self-determination in students with disabilities (Mazzotti et al., 2012; Wehmeyer, 2015). Such uncertainty about the intervention was also evident in the initial interviews and training sessions with

the teacher prior to and during implementation of the intervention. Although the teacher was very willing to implement the intervention according to the primary researcher's specifications, he suggested that he was uncertain about his ability to implement it and about his students' abilities to make their own choices. In this particular situation, the teacher was invested in trying something new, which may have led to the general improvements in his attitude and willingness throughout the implementation of the intervention.

Many teachers are put under incredible stress to demonstrate control over their classrooms, and behavior management strategies often focus on structured activities and procedures (Carter et al., 2010). Furthermore, many teachers, parents, and administrators who work with students with emotional disabilities may not believe that their students have the capacity to make their own choices and decisions (Carter et al, 2010; Carter et al., 2015, Grigal et al., 2003; Seo et al., 2015; Shogren et al., 2007). The teacher in this study expressed concerns that his classroom would be unmanageable because the students would not do any work if they were given a choice. He also questioned their ability to work independently without a teacher or aide always by their side. The fact that the teacher increased so dramatically in his rating of being able to implement the intervention on his own demonstrates that the teacher had a significant shift in his perspective of the intervention. The teacher indicated that the intervention helped him with time management, improved his relationships with the students, and his willingness to implement the intervention, also speak to the social validity and value of the intervention within the classroom.

### **Self-Determination Theory**

The results of this study can be further explored as they relate to the tenets of self-determination theory. According to Deci & Ryan, “Self-determination is the capacity to choose and have those choices be the determinants of one’s actions” (Deci & Ryan, 1985, p. 38). The results of this study reflected four of the tenets of self-determination theory. This includes the psychological needs of humans of autonomy, competence, and relatedness and the idea that when these needs are met, that individuals are more effective at regulating their own behaviors (Deci & Ryan, 2000).

When the intervention was introduced, the students’ need for autonomy was met by their ability to make their own choices about what activity they worked on first, and also in being able to move on to the next activity in their own time. Furthermore, although it was not initially planned, the students’ autonomy increased in making decisions about which teacher or aide they asked for help and where they sat while they completed their work. Students experienced feelings of competence as they completed their schoolwork. This was demonstrated by the fact that all of the students eagerly took their work to the teacher and classroom aides to check during the intervention, and they frequently pointed out vocabulary sentences or answers to the writing prompt that they thought the aide and teachers would like. The checklist also served as a visual reminder of the work that they had completed and each day all of the students showed the teacher, the aides, and their fellow students the amount of work they had completed, indicating that they were proud of their work completion. Their work completion also earned them recognition from the adults and other students. Finally, because their behavior improved during intervention, all of the students received more stars and fewer checks on their behavior charts, which may have led to increased feelings of behavioral competence.

Relatedness was also increased during the implementation of the intervention. Prior to introducing the intervention, many of the encounters with the adults and the students were focused on discipline and correction. When the intervention was implemented, the adults were able to discuss the assignments with the students. Conversations usually centered around discussions of the journal prompt and use of the vocabulary words, and often led to personal stories being told. For example, one of the journal prompts asked the question about whether women should be treated equal to men. As the students wrote in their journals, the classroom aides shared stories about times that they felt they had not been treated equally. Another journal topic asked the students who their favorite person was. Doug decided to write about his grandfather, and one of the classroom aides shared stories with Doug about her grandparents.

Additionally, students were more encouraging of each other. For example, several students helped their classmates when they were finished with all of their work. Also, on one occasion when Jake was upset and beginning to argue and cry, Doug went to him and said “you’ve had a good day so far. Don’t ruin it now. You can do this and keep having a good day” and proceeded to help Jake refocus on his work and complete it. Thus, the intervention appeared to have resulted in increased relatedness for both the students and the adults in the class. According to self-determination theorists, because these needs may have been more adequately met during the intervention, the students were better able to engage in productive behaviors and to put into practice the social regulations and expected behaviors that have been taught to them by their teacher and classroom aides (Deci & Ryan, 2000).

The results of this study mirror the results of other studies that have sought to encourage self-determination among students with disabilities. For example, several studies have shown the effectiveness of interventions that target self-advocacy, self-monitoring, and goal-setting and problem solving with students with disabilities (Blood et al., 2011; Danneker & Bottge, 2009; Hart & Brehm, 2009; King-Sears & Bonfils, 1999; Mazzotti et al., 2012; Palmer & Wehmeyer, 2003; Roberts et al., 2016; Sebag, 2010; Wehmeyer et al., 2012). In addition, studies have found a similar effect on academic engagement when students with ED were offered choices in their independent work (Jolivet et al., 2001; Kern, Bambara, & Fogt, 2002). This study adds to the existing literature that supports the use of choice-making and other self-determination interventions with students with emotional disabilities. Since many of the previous studies were conducted with students who were in middle school or high school, this study adds to the smaller collection of research on providing interventions that promote self-determination among elementary-aged students.

### **Limitations**

Limitations of this study include research design, generalizability and difficulty with replication, the ethical dilemma of withdrawing the intervention, difficulty with replication, and teacher buy-in. First, this study was conducted in one classroom at an elementary school, and the sample consisted of six children who attended the classroom. Therefore, the results of this study may not be generalizable to other populations of students. In addition, the sample in this study was a sample of convenience. The absence of a more random sampling approach also reduces the validity of the study and its generalizability to the general population.

The research design of this study may have affected the validity of the results. First, although the baseline data never reached stability, the decision to introduce the intervention was made. This decision could be perceived as compromising to the validity of the results, mainly because the changes in behavior that occurred throughout the study could be viewed as ongoing instability and not as a result of the intervention. Increasing the length of the intervention phase to five to eight observations could have assuaged this perception. However, since all changes in behavior coincided with changes in the independent variable, and since the changes were seen at the same time in all of the students, the results of this study can be considered valid even though the intervention phases lasted only days each.

Another possible threat to validity is based on the ability to isolate the independent variable, which was the offering of choice of academic activity to each student. Since the classroom is a dynamic environment, isolating the independent variable was not possible. In order to make the choice intervention available to students, other factors had to be incorporated. For example, the students kept track of their work on a checklist, engaging in self-management strategies. It is impossible to determine if part of the effect was not based on the self-management strategy. Additionally, although the choice that was given to students was a choice of academic activity, such a choice incorporated other choices as well. In choosing which center they wanted to work in, the students also chose where they wanted to work, which adult they wanted to work with, which students they wanted to work around, and whether to complete a preferred or a dreaded activity first or last. Thus, the choice-making intervention also incorporated an

element of problem solving and decision making, which cannot be separated from the independent variable.

Such confounds can be seen as threats to validity, but they also represent a confirmation of the tenets of Self-Determination Theory. Wehmeyer (2000) wrote that freedom to make choices is the initial behavior in the acquisition of self-determination skills. Once the choice is given, the individual will move to problem solving and determining which course is best for him or her, and that problem solving includes examining each variable and choosing the best course of action. Thus, this study illustrated the domino effect that is created by the opportunity to choose and the effectiveness of such a simplistic intervention in being the impetus for larger self-determination processes.

Another limitation of this study was that it was not conducted in a controlled environment. Since the study took place in an elementary school classroom, there were several factors that compromised the control of the research environment. First, not all of the students participated in all of the observations because they were absent from school. Doug and Teresa were absent twice during the Baseline 1 observations, possibly compromising the stability of their Baseline 1 data. Also, Clara was absent for the entire week that Baseline 2 and Intervention 2 were collected. As a result, although the intervention was effective in reducing Clara's disruptive behavior and improving her academic engagement when it was introduced the first time, the true effect of the intervention on Clara's behavior is unknown as the intervention could not be replicated in the current study. Another difficulty that arose during the study was the changing nature

of the classroom schedule as observations were sometimes cancelled or rescheduled due to school events such as assemblies and class parties.

Another aspect of the classroom that might have compromised study results was the attendance of the classroom aides. During two observation sessions, one of the classroom aides was absent. During the last observation session, both aides were absent and a substitute aide assisted in the classroom. The variability of adults in the classroom could have led to a delay in introducing the intervention, low treatment integrity if substitute aides were not familiar with the intervention, and compromised success of the intervention when the teacher had less help than what was typical. However, the intervention was effective in reducing disruptive behaviors and increasing academic engagement, despite the variability of classroom adults.

There were some ethical considerations when performing this study as well. The first ethical consideration presented during the first baseline phase. During the first baseline phase, the student data was variable. Therefore, a choice had to be made about whether to introduce the intervention after eight observations sessions to all students (as some students had very unstable data), or to stagger introducing the intervention to begin with students whose data was more stable, while allowing additional time for the other student's data to stabilize. The decision was made to introduce the intervention because some students might react poorly if they were not all offered the intervention at the same time. As a result, baseline data for all students never reached stability. A second ethical dilemma was present when the intervention was withdrawn, and dealt with the question about whether it was ethical to withdraw an intervention that appeared to be beneficial to both the teacher and the students. In fact, the teacher expressed concern about

withdrawing the intervention. One student, Erik, became very upset when the intervention was withdrawn. To best handle this situation, the intervention was only withdrawn long enough to measure a deterioration in academic engagement and increase in disruptive behaviors.

Finally, teacher buy-in can be a limitation of this study. In order for this study to be effective, it was necessary for the teacher to take a leap of faith and to implement an intervention that was very new to him. Obtaining support from a teacher might be difficult, given the time and administrative restraints that most teachers experience (Mazzotti, 2012; Wehmeyer, 2015). Therefore, it is important to work very closely with the teacher and devise a strategy that he or she is comfortable with. Fortunately, the teacher was open to new ideas and desired new strategies to increase student engagement in the classroom, thus leading to greater acceptability of the selected intervention.

### **Future Research**

Future research could begin with expanding the understanding of the current study. As discussed earlier, the design of this study failed to isolate the independent variable as the only factor that led to the decrease in disruptive behavior and the increase in academic engagement. Other possible factors included self-management strategies and problem-solving. Future research could focus on the effects of these factors with the current intervention. Furthermore, the behavior of the adults also changed after the intervention was implemented. Overall, the adults interacted more positively with the students once the intervention was implemented. They scolded the students less often, and praised them for completing their work more frequently. The adults also utilized different strategies in helping the students with behavioral challenges. Whereas before

the intervention was implemented, students often received a check for engaging in a disruptive behavior or for failing to attend to their classwork, after implementation, the adults were much more likely to talk to the students and help them refocus on the task at hand. Finally, the adults in the room also noticed more quickly when a student needed help with his or her work and therefore offered more academic assistance to the students. Therefore, future research could focus on the effect of the intervention on the adults in the classroom and measure the impact of their behavioral change on the behaviors demonstrated by the students. In addition, it would be beneficial to continue to assess the impact of the intervention to assess the generalization of the intervention for the teacher and students. The current study ended after the reintroduction of the intervention. Therefore, it is unclear whether the classroom teacher was able to incorporate the intervention into other instructional times. Future research could continue the study past the point of reintroduction and through generalization, measuring the total effects of the intervention on the class's overall behavior throughout the day.

The question of generalizability to different populations and other different conditions also warrants future study. This study was effective in demonstrating how a choice-making intervention affects student levels of disruptive behavior and academic engagement. However, the results are limited in their generalizability to a self-contained classroom of elementary aged students with emotional disturbance. Therefore, one suggestion for future research is to replicate the study with different populations and in different environments. Studies by Jolivet (2001) and Kern (2002) and their colleagues demonstrated improvements in students' behaviors when individual students were given a choice about completing their independent class work. Future studies might focus on

allowing a classroom of students to make a collective choice about their topic or mode of study, or the order in which they complete the assigned curriculum for the day. The studies by Jolivette and Kern et al., as well as this study also focused on restrictive environments for students with emotional disabilities. Future work might include exploring the effect of choice-based interventions on students with emotional disabilities who are educated in resource or general education classrooms.

Future research could also explore other aspects of self-determination and the effects of interventions in those areas on students with emotional disabilities. For example, King-Sears & Bonfils (1999) conducted a study involving self-monitoring among students with disabilities using a video modeling intervention. Little to no research exists right now that explores the use of self-monitoring interventions on students with emotional disabilities. Likewise, Roberts et al. (2016) and Sebag (2010) both conducted studies that evaluated the effects of self-advocacy interventions, such as participation in student-led IEP meetings with students who had learning disabilities. Self-advocacy is another facet of self-determination that would benefit students with emotional disabilities, yet no research studies could be found that focused on this particular population. As Wehmeyer et al., (1998) described, choice-making is a first step in self-determination. Once individuals make their own choices, they become more adept at making decisions, problem solving, goal setting, and in regulating their own behavior. Therefore, learning about those higher forms of self-determination among the ED population may prove beneficial. Finally, further research into the effects of self-determination interventions, such as choice-making interventions on the actual self-determination of the individual could be valuable. Currently, research exists that

explores the effects of such interventions on academic engagement or disruptive behavior. However, none of the referenced studies evaluated the self-determination of students prior to implementing the intervention and again once it withdrawn. As a group, students with ED lag behind not only their non-disabled peers, but also their otherwise-disabled peers in self-reported levels of self-determination (Carter et al., 2010; Carter et al., 2015; Grigal et al., 2003; Seo et al., 2015; Shogren et al., 2007). Shogren et al., (2007) used the Arc's Self-Determination Scale and the AIR Self-Determination Scale to measure the self-reported level of self-determination among students with ED and students with other disabilities. They found that students and the adults in their lives reported lower levels of self-determination for students with ED than for students with other disabilities. However, the authors did not identify whether interventions that promote self-determination are effective in increasing the reported level of self-determination among the students or the adults. Therefore, future research could potentially answer questions about whether such interventions increase self-reported self-determination in addition to altering behavior.

### **Implications for Practice**

Research into interventions that promote self-determination in students with ED is still in its infancy. However, given the effectiveness of such interventions, incorporating more opportunities for self-determination among students with emotional disabilities appears to be appropriate and well-supported by research.

Self-determination is an educational goal for many people who are involved in education. Grigal and colleagues (2003), for example, found that promoting self-determination in students is important to parents, teachers, and administrators. However,

only half of administrators surveyed could describe opportunities that students were given in their schools to build self-determination skills and most could not identify any professional development opportunities that had been made available to teachers to teach them how to promote self-determination in their students (Carter et al., 2015).

Wehmeyer (2015) also argued that despite the knowledge that self-determination is important when predicting future outcomes of students with disabilities, efforts to promote self-determination remain only fringe efforts made by dedicated educators and administrators, and are certainly not the norm. In Wehmeyer's view, promoting self-determination in students symbolizes a shift away from interventions that focus on a person's deficits and toward interventions that focus on an individual's strengths (Wehmeyer, 2015).

Self-determination should truly be viewed as an educational outcome.

Implications for practice include educating teachers and administrators on the importance of self-determination and its capacity to lead to important behavioral outcomes for students with disabilities, especially emotional disabilities. Teachers also need training in interventions that they can implement that will promote self-determination in their students. Finally, self-determination can also be incorporated into a tiered behavioral support system that could be used with all students. By implementing self-determination goals into Tier 1 of a multi-tiered behavioral support system, all students could be encouraged in activities that support the development self-determination, rather than limiting such goals to students with disabilities (Wehmeyer, 2015). This would also necessitate the development of valid tools to measure self-determination as well as development of interventions that could be used in Tier 2 and Tier 3.

In order to promote self-determination interventions and education to all students, it would also be important to identify obstacles that many children have to self-determination. Although self-determination is a goal for many teachers, parents, and administrators, such skills are rarely promoted in the school environment and teachers and administrators rarely receive the training that they need in order to implement interventions and practices that promote self-determination (Carter et al., 2015, Grigal et al., 2003). Among students with ED, teachers' and parents' perspectives of the ability of students with ED to be self-determined limit the opportunities that students with ED are given to build self-determination skills (Carter et al., 2010; Carter et al., 2015; Grigal et al., 2003; Seo et al., 2015; Shogren et al., 2007). Therefore, it is important to enter into self-determination interventions slowly and in a way that is comfortable for all involved. In the current study, the classroom teacher expressed doubts about his ability to implement the intervention and his students' abilities to adopt the intervention. Additionally, not all students were able to adopt the intervention fully at first. Clara was wary and her behavior increased as her comfort with the intervention grew. Erik also was very uncomfortable the first day as he was confused about his ability to make his own choices. Therefore, implementation of future self-determination interventions should include the teaching of choice-making to the students and a gradual introduction of any new intervention.

### **Summary**

This study evaluated the effectiveness of an intervention that offered a choice of activity to students with ED on their disruptive behavior and academic engagement. Baseline data for all individuals was variable and reflected the variation of behaviors that

were present in the classroom. Once the intervention was introduced, however, disruptive student behaviors declined for almost all students and levels of student academic engagement increased. This effect was replicated when the intervention was withdrawn and then reintroduced, suggesting a strong effect of the intervention on decreasing disruptive student behaviors and increasing levels of student academic engagement. This study, especially when viewed in the context of a growing body of research that demonstrates the effectiveness of interventions that promote self-determination in students with disabilities, supports the inclusion of practices that promote choice-making interventions in school. However, such practices are scarce among the educational community despite the knowledge that individuals who are self-determined are more likely to lead successful lives once they leave high school. Of all students who are educated in the public educational system, students with emotional disturbance are the least likely to experience success during school and afterwards. They are also less likely to be given opportunities to build levels of self-determination throughout childhood. Therefore, using interventions that promote self-determination skills with students with ED can not only promote learning during their school years, but might also serve to promote success throughout their lives.

## Appendix A: IRB Approval Letter



**Research**  
Office for Research & Discovery

Human Subjects  
Protection Program

1618 E. Helen St.  
P.O.Box 245137  
Tucson, AZ 85724-5137  
Tel: (520) 626-6721  
<http://rgw.arizona.edu/compliance/home>

**Date:** February 09, 2017  
**Principal Investigator:** Shana A BurgosDestephanis  
**Protocol Number:** 1702182742  
**Protocol Title:** Effects of a Self-Determination Intervention on Students with Emotional Disturbance  
**Level of Review:** Expedited  
**Determination:** Approved  
**Expiration Date:** February 08, 2018

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**Documents Reviewed Concurrently:**

**Data Collection Tools:** *Observation Recording Form\_011217.docx*  
**Data Collection Tools:** *Social Validity Tool\_010417.pdf*  
**Data Collection Tools:** *Treatment Integrity Checklist\_011717.docx*  
**HSPP Forms/Correspondence:** *Appendix A\_010917.doc*  
**HSPP Forms/Correspondence:** *IRB Application\_020617.doc*  
**HSPP Forms/Correspondence:** *Signature Page\_020217.pdf*  
**HSPP Forms/Correspondence:** *Verification of Training Form\_020617.doc*  
**Informed Consent/PHI Forms:** *Parent Consent\_English\_020617.doc*  
**Informed Consent/PHI Forms:** *Parent Consent\_English\_020617.pdf*  
**Informed Consent/PHI Forms:** *Parent Consent\_Spanish\_020617.doc*  
**Informed Consent/PHI Forms:** *Parent Consent\_Spanish\_020617.pdf*  
**Informed Consent/PHI Forms:** *Student Assent\_010417.doc*  
**Informed Consent/PHI Forms:** *Student Assent\_010417.pdf*  
**Other Approvals and Authorizations:** *SUSD Approval Letter\_011717.pdf*

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This submission meets the criteria for approval under 45 CFR 46.110, 45 CFR 46.111 and/or 21 CFR 50 and 21 CFR 56. This project has been reviewed and approved by an IRB Chair or designee.

- No changes to a project may be made prior to IRB approval except to eliminate apparent immediate hazard to subjects.
- The University of Arizona maintains a Federalwide Assurance with the Office for Human Research Protections (FWA #00004218).
- All research procedures should be conducted according to the approved protocol and the policies and guidance of the IRB.
- The current consent with the IRB approval stamp must be used to consent subjects.
- The Principal Investigator should notify the IRB immediately of any proposed changes that affect the protocol and report any unanticipated problems involving risks to participants or others. Please refer to Guidance Investigators Responsibility after IRB Approval and Reporting Local Information.
- For projects that wish to continue after the expiration date listed above please submit an F212: Renewal Progress Report, **forty-five (45) days** before the expiration date to ensure timely review of the project.
- All documents referenced in this submission have been reviewed and approved. Documents are filed with the HSPP Office. If subjects will be consented the approved consent(s) are attached to the approval notification from the HSPP Office.

## Appendix B: Parental Consent in English



### The University of Arizona Consent to Participate in Research

**Study Title:** Effects of a Self-Determination Intervention on Students with Emotional Disturbance

**Principal Investigator:** Shana Burgos-DeStephanis

This is a consent form for research participation.

Your child is being asked to participate in a research study conducted by Shana Burgos-DeStephanis from the University of Arizona. This study will contribute to the researcher's completion of her doctoral dissertation. Should you decide to allow your child to participate in this research study, you will be asked to sign this consent form once all your questions have been answered to your satisfaction.

#### Why is this study being done?

The purpose of this research is to explore how giving student's choice in academic assignments in the classroom might improve student's academic engagement and reduce their disruptive behaviors.

#### What will happen if I take part in this study?

Your child will be observed in their self-contained classroom for thirty minutes per day to observe time on task and disruptive behaviors. During math instructional time, students will be given the opportunity to choose which assignment they would like to complete first. Each student will still be required to complete all of the assigned work, but will be able to choose the order in which they complete each assignment.

#### How long will my child participate in the study?

The study will last between 6 and 8 weeks.

#### How many people will take part in this study?

Six students will be involved in the study. The classroom teacher will also assist in implementing the intervention to the students.

#### Can my child stop being in the study?

You may refuse to allow your child to participate in this study. If you decide to consent to your child's participation in the study, you may withdraw your child from the study at any time. No matter what decision you make, there will be no penalty to you or your child and you will not lose any of your usual benefits. Your decision will not affect your or your child's future relationship with The University of Arizona.

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### **What risks or benefits can I expect from being in the study?**

Benefits include the possibility that your child will experience increased academic engagement and less disruptive behavior in his or her math class. He or she will also be given an opportunity to make choices, which can lead to increased self-determination. Finally, your child's teacher may also learn a simple strategy to use in the classroom that could lead to less disruptive behavior and more academic engagement in all academic areas. Risks include the possibility that your child will only complete the assignments that he or she prefers, rather than all of the assigned work. He or she may also experience negative emotions when the opportunity to choose is temporarily taken away.

### **Will my child's study-related information be kept confidential?**

Students will not be identified by their real names. Therefore, no individuals except for the principal investigator and the teacher will have access to confidential information. All records will be destroyed as soon as the data from them has been recorded.

*Efforts will be made to keep your study-related information confidential. However, there may be circumstances where this information must be released. Also, your records may be reviewed by the following groups:*

- *The University of Arizona Institutional Review Board*
- *Office for Human Research Protections or other federal, state, or international regulatory agencies*

### **Who can answer my questions about the study?**

For questions, concerns, or complaints about the study you may contact Shana Burgos-DeStephanis at (520) 977-3995.

For questions about your child's rights as a participant in this study or to discuss other study-related concerns or complaints with someone who is not part of the research team, you may contact the Human Subjects Protection Program at 520-626-6721 or online at <http://rgw.arizona.edu/compliance/human-subjects-protection-program>.

If your child is injured as a result of participating in this study or for questions about a study-related injury, you may contact Shana Burgos-DeStephanis.

An Institutional Review Board responsible for human subjects research at The University of Arizona reviewed this research project and found it to be acceptable, according to applicable state and federal regulations and University policies designed to protect the rights and welfare of participants in research.

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### Will educational records be accessed?

Your child's educational records may be accessed by the principal investigator in order to learn the following:

- Your child's eligibility for special education
- Your child's history of behavior challenges.
- The history of interventions tried.
- Whether or not your child takes medications.

Education records used by this research project are education records as defined and protected by Family Educational Rights and Privacy Act (FERPA). FERPA is a federal law that protects the privacy of student education records. Your consent gives the researcher permission to access the records identified above for research purposes.

### Will my child's data be stored for future research?

Deidentified data from this study may be stored for future publications of this study.

### Signing the consent form

I have read (or someone has read to me) this form, and I am aware that I am being asked to consent to my child's participation in a research study. I have had the opportunity to ask questions and have had them answered to my satisfaction. I voluntarily agree to allow my child to participate in this study.

I am not giving up any legal rights by signing this form. I will be given a copy of this form.

\_\_\_\_\_  
Printed name of person authorized to  
consent for subject

\_\_\_\_\_  
Signature of person authorized to consent for subject

\_\_\_\_\_  
Date

### Investigator/Research Staff

I have explained the research to the participant or the participant's representative before requesting the signature(s) above. There are no blanks in this document. A copy of this form has been given to the participant or to the participant's representative.

\_\_\_\_\_  
Printed name of person obtaining consent

\_\_\_\_\_  
Signature of person obtaining consent

\_\_\_\_\_  
Date

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## Appendix C: Parental Consent in Spanish



### The University of Arizona Consent to Participate in Research

**Título del Estudio:** Efectos de una Intervención de Autodeterminación en Estudiantes con Trastorno Emocional

**Investigator Principal:** Shana Burgos-DeStephanis

**Esta es una forma de consentimiento para la participación en la investigación.**

A su hijo ha sido seleccionado para participar en un estudio de investigación realizado por Shana Burgos-DeStephanis de la Universidad de Arizona. Este estudio contribuirá a que la investigadora termine su tesis doctoral. Si decide permitir que su hijo participe en este estudio de investigación, se le pedirá que firme este formulario de consentimiento una vez que todas sus preguntas hayan sido respondidas a su satisfacción.

**¿Por qué se está haciendo este estudio?**

El propósito de esta investigación es para explorar cómo dar diferentes opciones al estudiante en trabajos académicos asignados en el salón de clases podría mejorar el compromiso académico del estudiante y reducir sus comportamientos disruptivos.

**¿Qué pasará si su hijo participa en este estudio?**

Su hijo será observado en su aula autocontenida por treinta minutos por día para observar el tiempo que dedica trabajar y los comportamientos disruptivos. Estas observaciones serán durante la instrucción de matemáticas, los estudiantes tendrán la oportunidad de elegir el trabajo que les gustaría completar en primer lugar. A cada estudiante se le requerirá completar todo el trabajo asignado, pero podrá elegir el orden en el cual completará cada trabajo asignado.

**¿Cuánto tiempo estará mi hijo en el estudio?**

El estudio durará entre 6 a 8 semanas.

**¿Cuántos niños serán parte de este estudio?**

Seis estudiantes participarán en el estudio. El maestro también ayudará a implementar la intervención a los estudiantes

**¿Puede mi niño dejar de participar en el estudio?**

Usted puede negarse a permitir que su hijo participe en este estudio. Si decide dar su consentimiento para la participación de su hijo en el estudio, puede retirar a su hijo del estudio en cualquier momento. No importa qué decisión tome, no habrá penalidad para usted o su hijo y no perderá ninguno de sus beneficios escolares. Su decisión no afectará su relación futura con la Universidad de Arizona.

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***¿Qué riesgos, efectos secundarios o molestias puede esperar mi hijo al participar en el estudio?***

Los beneficios incluyen la posibilidad de que su hijo experimente un mayor compromiso académico y un comportamiento menos perturbador en su clase de matemáticas. A él también se le dará la oportunidad de tomar sus propias decisiones, lo que puede conducir a una mayor autodeterminación. Por último, el maestro de su hijo también puede aprender una estrategia simple para usar en el aula que podría conducir a un comportamiento menos perturbador y un mayor compromiso académico en todas las áreas académicas. Los riesgos incluyen la posibilidad de que su hijo sólo complete los trabajos de matemáticas que él o ella prefiera, en lugar de todo el trabajo asignado. Él o ella también puede experimentar emociones negativas cuando la oportunidad de elegir es temporalmente retirada.

**¿Mi información relacionada con el estudio se mantendrá confidencial?**

Los estudiantes no serán identificados por sus nombres reales. Por lo tanto, ningún individuo excepto el investigador principal y el maestro tendrá acceso a información confidencial. Todos los registros serán destruidos tan pronto como los datos de ellos hayan sido registrados.

Se harán esfuerzos para mantener su información relacionada con el estudio confidencial. Sin embargo, puede haber circunstancias en las que esta información debe ser divulgada. Además, sus registros pueden ser revisados por los siguientes grupos:

- La Junta de Revisión Institucional de la Universidad de Arizona
- Oficina de Protecciones de Investigación Humana u otras agencias reguladoras federales, estatales o internacionales

**¿Quién puede contestar mis preguntas acerca del estudio?**

Para preguntas, inquietudes o quejas sobre el estudio, puede comunicarse con Shana Burgos-DeStephanis al (520) 977-3995.

Para preguntas sobre los derechos de su hijo como participante en este estudio o para discutir otras preocupaciones o quejas relacionadas con el estudio con alguien que no forma parte del equipo de investigación, puede comunicarse con el Programa de Protección de Sujetos Humanos al 520-626-6721 o en línea al [Http://rgw.arizona.edu/compliance/human-subjects-protection-program](http://rgw.arizona.edu/compliance/human-subjects-protection-program).

Si su hijo es lesionado durante la participación de este estudio o por preguntas sobre una lesión relacionada con el estudio, puede comunicarse con Shana Burgos-DeStephanis.

Una Junta de Revisión Institucional responsable de investigación de sujetos humanos en la Universidad de Arizona examinó este proyecto de investigación y encontró que era aceptable, según las pólizas de la Universidad diseñadas para proteger los derechos y el bienestar de los participantes en la investigación y regulaciones federales y estatales aplicables.

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### ¿Se accederán expedientes educativos?

Los expedientes educativos de su niño pueden ser utilizados por el investigador principal para aprender lo siguiente:

- La elegibilidad de su hijo para educación especial
- El historial de problemas de comportamiento de su hijo.
- La historia de las intervenciones intentadas.
- Si su hijo toma medicamentos o no.

Los expedientes de educación usados en este proyecto de investigación son expedientes protegidos por los derechos de la Educación y la Ley de la Privacidad de la Familia (FERPA). FERPA es una ley federal que protege la privacidad de los registros de educación estudiantil. Su consentimiento le da permiso al investigador para tener acceso los registros identificados anteriormente con fines de investigación.

### ¿Se almacenarán los datos de mi hijo para futuras investigaciones?

Los datos identificados de este estudio se pueden almacenar para futuras publicaciones de este estudio.

### Firmando el Consentimiento de Investigación

He leído (o alguien me ha leído) este formulario, y soy consciente de que se me pide que autorice la participación de mi hijo en un estudio de investigación. He tenido la oportunidad de hacer preguntas y he tenido que responder a mi satisfacción. Yo voluntariamente acepto permitir que mi hijo participe en este estudio.

No renuncio a ningún derecho legal firmando este formulario. Me darán una copia de este formulario.

\_\_\_\_\_  
Nombre en letra de imprenta  
de la persona autorizada para  
consentir

\_\_\_\_\_  
Firma de la persona autorizada para  
consentir

\_\_\_\_\_  
Fecha

Investigador / Personal de Investigación

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He explicado la investigación al participante o al representante del participante antes de solicitar la firma(s) anterior. No hay espacios en blanco en este documento. Se ha entregado una copia de este formulario al participante o al representante del participante.

---

Nombre de la persona que  
da consentimiento

---

Firma de la persona que da  
consentimiento

---

Fecha

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## Appendix D: Student Assent



Department of Disability and  
 Psychoeducational Studies  
 College of Education

PO Box 210069  
 Tucson, AZ 85721-0069  
 Tel: (520) 621-7822  
 Fax: (520) 621-3821

Dear student,

Shana Burgos-DeStephanis will be leading a project with students in fifth grade to help them be more successful in their schoolwork. This includes working with students to help them make choices about their work. You can help with this project if you would like to, but you are not required to participate.

In the project, your teacher and classroom aides will be working with you. Shana and some of her helpers will also be in your classroom doing observations.

If you decide to help with this project but then change your mind you can stop helping at any time.

If you do not understand what Shana or her helpers would like you to do, please ask them questions.

If you want to help with this project, please write your name on the line at the bottom of this page.

Student's Name \_\_\_\_\_

Student's Signature \_\_\_\_\_

**Witness (Or in lieu of signature):** In my judgment, the student understands the information in this consent form and agrees to be in the study.

Witness Signature \_\_\_\_\_ Date \_\_\_\_\_



Student Assent Version 1/4/2017



**Appendix F: Treatment Integrity Checklist****Treatment Integrity Checklist**

Baseline Component Checklist	
Observation	No choice
	1
	2
	3
	4
	5
	6
	7
	8
	9
	10
	11
	12
	13
	14
	15

Intervention Component Checklist	
Observation	Choice
	1
	2
	3
	4
	5
	6
	7
	8
	9
	10
	11
	12
	13
	14
	15

## Appendix G: Social Validity Tool

Page 1



# URP-Intervention

**Directions:** Consider the described intervention when answering the following statements. Circle the number that best reflects your agreement with the statement, using the scale provided below.

		Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
1.	This intervention is an effective choice for addressing a variety of problems.	1	2	3	4	5	6
2.	I would need additional resources to carry out this intervention.	1	2	3	4	5	6
3.	I would be able to allocate my time to implement this intervention.	1	2	3	4	5	6
4.	I understand how to use this intervention.	1	2	3	4	5	6
5.	A positive home-school relationship is needed to implement this intervention.	1	2	3	4	5	6
6.	I am knowledgeable about the intervention procedures.	1	2	3	4	5	6
7.	The intervention is a fair way to handle the child's behavior problem.	1	2	3	4	5	6
8.	The total time required to implement the intervention procedures would be manageable.	1	2	3	4	5	6
9.	I would not be interested in implementing this intervention.	1	2	3	4	5	6
10.	My administrator would be supportive of my use of this intervention.	1	2	3	4	5	6
11.	I would have positive attitudes about implementing this intervention.	1	2	3	4	5	6
12.	This intervention is a good way to handle the child's behavior problem.	1	2	3	4	5	6
13.	Preparation of materials needed for this intervention would be minimal.	1	2	3	4	5	6

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
14. Use of this intervention would be consistent with the mission of my school.	1	2	3	4	5	6
15. Parental collaboration is required in order to use this intervention.	1	2	3	4	5	6
16. Implementation of this intervention is well matched to what is expected in my job.	1	2	3	4	5	6
17. Material resources needed for this intervention are reasonable.	1	2	3	4	5	6
18. I would implement this intervention with a good deal of enthusiasm.	1	2	3	4	5	6
19. This intervention is too complex to carry out accurately.	1	2	3	4	5	6
20. These intervention procedures are consistent with the way things are done in my system.	1	2	3	4	5	6
21. This intervention would not be disruptive to other students.	1	2	3	4	5	6
22. I would be committed to carrying out this intervention.	1	2	3	4	5	6
23. The intervention procedures easily fit in with my current practices.	1	2	3	4	5	6
24. I would need consultative support to implement this intervention.	1	2	3	4	5	6
25. I understand the procedures of this intervention.	1	2	3	4	5	6
26. My work environment is conducive to implementation of an intervention like this one.	1	2	3	4	5	6
27. The amount of time required for record keeping would be reasonable.	1	2	3	4	5	6
28. Regular home-school communication is needed to implement intervention procedures.	1	2	3	4	5	6
29. I would require additional professional development in order to implement this intervention.	1	2	3	4	5	6

**Appendix H: Student Work-Completion Checklist**

<b>My ALL-Block Stations Check List</b>	
<b>Stations</b>	<b>Check after completed</b>
Independent Reading	
Writing	
Vocabulary	

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