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The Effects of Varied Opportunities to Respond Embedded in a Group Contingency Program

Teresa Donna Bolt

A thesis submitted to the faculty of  
Brigham Young University  
in partial fulfillment of the requirements for the degree of  
Master of Science

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June 2015

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## ABSTRACT

### The Effects of Varied Opportunities to Respond Embedded in a Group Contingency Program

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Master of Science

This study investigated the effects of using a group contingency program with three students with disabilities in a small group special education setting. These students exhibited both academic and behavioral difficulties. With the use of Class Wide Function-Related Intervention Team (CW-FIT) students increased their active engagement and correct responses, as well as decreased their disruptive behaviors; however, these behaviors did not maintain overtime. CW-FIT with high opportunities to respond showed an even greater improvement than CW-FIT with low opportunities to respond. Increased opportunities to respond resulted in higher levels of active engagement and correct responses and decreases in disruptive behavior for all three students. These results indicate that CW-FIT in combination with high opportunities to respond can help manage students' behavior and help them increase correct responding.

Keywords: group contingency, behavior, opportunities to respond, praise

## ACKNOWLEDGEMENTS

I am thankful for the encouragement and support of my thesis chair, Dr. Blake Hansen. Dr. Hansen spent significant time helping me develop and conduct my study. His support made it possible for me to complete my thesis. I appreciate the support and feedback given by my committee members, Dr. Richard Young and Dr. Paul Caldarella. I'm also grateful for Leslie Williams and her ongoing help with collecting and analyzing data from my study.

I also appreciate Nebo School District's help in finding participants and providing the materials and classroom for the study. Michelle Thompson was at the forefront of these efforts. Without her help this study would not have been possible.

Lastly, I am grateful for the support of my husband. It was from Stephen's encouragement that I even considered applying for this program. He continuously encouraged me to complete my thesis, even if it took away from our time together. I am also thankful for support of my parents and siblings throughout completing my thesis.

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## DESCRIPTION OF THESIS STRUCTURE

*The Effects of Varied Opportunities to Respond Embedded in a Group Contingency Program* is presented in a dual format. In this format, both traditional thesis requirements and journal publication requirements are met.

The preliminary pages of the thesis meet university requirements for thesis formatting and submission. The first section is presented in a journal-ready format to meet requirements for future publication in education journals. The full literature review is included in Appendix A. Two separate reference lists are used in this thesis. The first includes references used in the journal-ready article. The second reference lists includes all references used in the literature review found in Appendix A.



## Introduction

*David is a fifth grade elementary student who receives special education services for a learning disability. As an 11-year-old he already hates school. David performs far below grade level in reading and exhibits many disruptive behaviors in the classroom. Since the first grade, teachers have identified David as the troublemaker, who never does his work, and who will never pass a test. They make comments such as, "If only he would pay attention in class" or "If only he would try." Dealing with David's academic needs and behavioral problems is a real challenge for any teacher and most have already predicted his future looks very grim.*

How did David get to this difficult situation? Is it his difficulty with academics? Is it his behavior? What truly is his barrier to learning and succeeding? What could have been done to prevent this? Teachers come to recognize this relationship of academic failure and challenging behavior. Many students who fit in to this category are students with disabilities (Hinshaw, 1992). Researchers have tried to find the relationship between academic success and problem behavior, but still have not found a clear correlation (Sutherland, Lewis-Palmer, Stichter, & Morgan, 2008). Some researchers have found students that struggle academically beginning as early as kindergarten and have no serious behavior problems (Jorm, Share, Matthews, & Maclean, 1986; McGee, Williams, Share, Anderson, & Silva, 1986). But as these same students continue to struggle, they begin to display serious maladaptive behaviors. Jorm et al. (1986) and McGee et al. (1986) believed these students resort to acting out to escape from the difficulty of academic demands. Other researchers have shown that students that exhibit disruptive behavior in earlier grades will in later grades show academic failure (Chen, Rubin, & Li, 1997; Masten et al., 1995). Although this research supports that there is some correlation between academic success and problem behavior, it is not clear which comes first. For this reason Sutherland et al.

(2008) argued researchers, educators, and parents must focus their efforts not solely on behavior of students, but also on academic interventions. This is seen most apparent with students with emotional and behavioral disorders.

A student classified under the Individuals with Disabilities Education Improvement Act (IDEA) as having an emotional or behavioral disorder (EBD) exhibits behavior that impedes his or her ability to access the general curriculum (Utah State Board of Education, 2013). However, students with EBD have the ability to achieve academically, meaning they do not have a learning disability or this is not their primary disability. Based on this information one would think teachers and parents should focus on the behavior of children with EBD and this would in turn improve their academics. It could be assumed that if a teacher could shape the behavior of a student with EBD, the student should be able to access the general curriculum. However, statistics do not show that students with EBD are achieving academically. In fact, when compared to students with other classifications under IDEA, students with EBD have the lowest grade-point average and have the highest drop-out rate of 45% (Reschly & Christenson, 2006; Sutherland & Webby, 2001; U.S. Department of Education, 2008; Wood & Cronin, 1999). Sutherland et al. (2008) indicated researchers have focused a great deal on challenging behavior for students with EBD, but the academic success of these students has stayed relatively the same. From this evidence, it can be concluded that the best interventions for students with EBD will address not only behavior, but also academics.

Similar to students classified as EBD, students with autism spectrum disorders (ASD) also show difficulties with regulating emotions and behavior. Ashburner, Ziviani, and Rodger (2010) found that students with ASD demonstrated significantly higher levels of behavioral and emotional difficulties across areas such as attention problems, internalizing behaviors, and

externalizing behaviors in comparison to typically developing peers. Horner, Carr, Strain, Todd and Reed (2002) analyzed research from 1996 to 2000 to review behavioral interventions for students with ASD. From their analysis, the most common behaviors identified for intervention for students with ASD included aggression, disruption, tantrums, and self-injury. These studies show that students with ASD exhibit behaviors that require intervention to both improve the child's behavior as well as the academic achievement similar to students classified under EBD.

Although students with disabilities in general may not engage in behavior at frequencies comparable to those of students with EBD or ASD, their challenging behavior still affect their academic performance. There is an inverse relationship between the rate of challenging behavior and the rate of teacher instruction. Sutherland and Wehby (2001) described this relationship as high rates of challenging behaviors result in low rates of academic instruction. This was shown in Carr, Taylor, and Robinson's study (1991) in a preschool setting. They found teachers provided more instruction to students without disruptive behavior than to students with disruptive behavior. Essentially, if a student displayed challenging behavior they received less academic instruction. This can be extremely detrimental to students with disabilities who already struggle with the academic instruction they receive. The same argument Sutherland et al. (2008) makes for students with EBD applies to students with disabilities that also display challenging behavior. They need both behavioral and academic intervention to improve their academic achievement.

Lewis, Hudson, Richter, and Johnson (2004) examined several evidence-based practices to increase the academic success of students with challenging behavior. Of all the evidence-based practices identified in the literature, Lewis et al. (2004) identified the most researched and the most effective practices. These practices included direct instruction, teacher

praise/reinforcement, opportunities to respond during instruction, positive behavior support (including functional behavioral assessment-based interventions, social skill instruction, and self-management interventions), and school-wide systems of positive behavior support. Stage and Quiroz (1997) conducted a meta-analysis of behavioral interventions used to decrease disruptive behavior and found that group contingencies ranked the most effective intervention on average across studies.

### **Class Wide Function-Related Intervention Teams**

Class Wide Function-Related Intervention Team (CW-FIT) is a group contingency behavioral management program used to increase students' on-task behavior and decrease disruptive behavior (Wills, et al., 2009). CW-FIT incorporates effective behavior strategies to help the class as whole, as well as individual students who may display problem behaviors. As part of CW-FIT students are taught specific classroom rules and earn rewards as a group for following these rules. CW-FIT integrates both social skills training, group contingency practices, and behavioral praise. CW-FIT studies show optimal results for students that display challenging behavior (Caldarella, Williams, Hansen, & Wills, 2014; Kamps et al., 2011; Wills, Iwaszuk, Kamps, & Shumate, 2014).

There is strong evidence to support the effectiveness of CW-FIT in general education classrooms. CW-FIT has been tested in over 40 classrooms with over 800 students (Caldarella et al., 2014; Kamps et al., 2011; Wills et al., 2014; Wills et al., 2009). In Kamps et al. (2011) study participants were from a low socioeconomic area, with most students receiving free or reduced lunch. The students were also very culturally diverse with 90% in the minority and 62% English Language Learners. Therefore, CW-FIT was administered in a diverse and high-risk population. Wills et al. (2014) conducted a study of CW-FIT in a first grade classroom across subjects in a

given day. They replicated the effects of CW-FIT throughout different subjects and throughout different times of the day. Caldarella et al. (2014) conducted a study across grades and subjects in an elementary school. Each study showed similar outcomes.

In each of the classrooms the CW-FIT intervention showed results of increased on-task behavior, decreased disruptive behavior, and an increase of teacher attention to appropriate behaviors (Caldarella et al., 2014; Kamps et al., 2011; Wills et al., 2014). Target students who displayed challenging behavior were identified in these studies by screening procedures. They too showed positive results of decreased disruptive behavior and increased on-task behavior for all target students (Caldarella et al., 2014; Kamps et al., 2011; Wills et al., 2014). These studies support the use of CW-FIT with high-risk populations across settings and subjects.

In a recent study, Kamps et al. (2015) conducted a randomized trial of CW-FIT with seventeen elementary schools over a four-year time period. Results showed classrooms that used CW-FIT had an increase of on-task behavior changing from average base-line rates of 52% to 83% during the intervention phase. In the comparison group, on-task behavior had little change with an average baseline rate of 50% increasing slightly to 56% during the withheld intervention phase. The study also showed similar changes in praise and reprimands. The CW-FIT classroom teachers increased their average praise from 4 to 40 during observation, while the comparison teachers showed little change with an increase from 4.46 to 4.62. CW-FIT classroom teachers decreased their average reprimands from 7.48 to 4.45, while the comparison teachers increased their average reprimands from 8.42 during baseline to 9.49 in the second phase. This results support and provide strong evidence of the effectiveness of the CW-FIT behavioral management system.

From these studies, there is evidence to support the use of CW-FIT to increase on-task behavior and decrease disruptive behaviors in the general education classroom. These studies also showed the effectiveness of CW-FIT for target students who displayed problem behavior. However, these studies were not conducted in a special education small-group setting. They also did not measure the impact CW-FIT had on the student's academic outcomes. Additionally, these studies did not measure the effects of varied opportunities to respond which may affect the effectiveness of the intervention (MacSuga-Gage & Simonsen, 2015).

### **Opportunities to Respond**

One of the evidence-based practices identified by researchers and professionals as an effective practice for teachers to use in their classrooms is increased opportunity to respond (OTR; MacSuga-Gage & Simonsen, 2015). OTR refers to the amount of chances students individually or as a group are given to respond to questions as given by the teacher (Sutherland, Alder, & Gunter, 2003). Studies have demonstrated a high correlation between high OTR and increased on-task behavior and decreased disruptive behavior for students (Carnine, 1976; Conroy, Sutherland, Haydon, Stormont, & Harmon, 2009). A student engaged in the instruction is less likely to engage in disruptive behavior. The Council for Exceptional Children (CEC) identifies OTR as an effective teaching practice for special educators (1987). The CEC encourages teachers to have four to six OTR's per minute during whole group instruction and eight to twelve OTR's per minute during independent practice to increase on-task behavior and increase the quality of learning.

Some researchers have looked at how increasing OTR affects on-task behavior and the academic behavior of students who display challenging behavior. These studies had similar results. Carnine (1976) performed a study with two students that showed high-rates of off-task

behavior as well as high rates of disruptive behavior during baseline conditions. Increasing OTR resulted in increases of on-task behavior and decreased rates of disruptive behaviors. Carnine also found that increased OTR resulted in increased correct responses, going from a baseline rate of 41% to 85%.

In a similar study, West and Sloane (1986) examined the relationship between slow and fast presentation of prompts with five students with EBD. High rates of OTR showed lower rates of disruptive behavior. They also showed slow-paced instruction elicited 0.9 correct responses per minute, while fast-paced instruction elicited 2.4 correct responses per minute for students with EBD. Skinner and Shapiro (1989) demonstrated high rates of OTR led to increased words read correctly and a decrease of words read incorrectly. Each of these studies showed that increase of OTR produces increased on-task behavior and increased academic success of students with EBD. However, these studies were done with a small sample size and were conducted many years ago. Sutherland et al. (2003) used these past studies to design a more recent study.

Sutherland et al. (2003) studied the effects of OTR on correct academic responses by students and disruptive behavior. They conducted their study with nine students identified as having EBD. For the intervention the observer gave feedback to the teacher on the teacher's OTR per minute rate and set goals with the teacher to increase the amount of OTRs. During baseline phases the teacher had an OTR rate of 1.68 per minute. With the use of the intervention, rates increased to 3.52. Sutherland et al. found that when OTR was increased it resulted in increase in teacher praise, increase of correct responses from the students, decrease in disruptive behavior, and higher percentage of on-task intervals. In summary, the authors

concluded that such “increased effective teaching practices lead to more appropriate classroom behavior of students with EBD” (p. 243).

Several studies have shown that with increased rates of OTR, students showed lower rates of disruptive behavior and increased their correct responses (Carnine, 1976; Skinner & Shapiro, 1989; Sutherland et al. 2003; West & Sloane, 1986). Research supports the correlation between increased OTR and increased on-task behavior, as well as increased academic success.

### **Opportunities to Respond and Praise**

There is a relationship between the effective practice of OTR and another effective teaching practice known as praise. Praise is a teaching strategy in which the teacher indicates their approval of a student’s behavior or academic performance. Several studies have shown that high rates of praise in a classroom result in the increase of on-task behavior and decrease in disruptive behavior of the students (Alber, Heward, & Hippler, 1999; Gunter & Coutinho, 1997; Sutherland, 2000).

Stormont, Smith, and Lewis (2007) conducted a study with three teachers in Head Start classrooms. In the study, each teacher showed low rates of praise and higher rates of reprimands in the baseline phases. Teachers then participated in two trainings on effective teaching practices to use in the classroom including specific praise. With this simple intervention, all teachers showed an increase in praise rates. However, reprimand rates stayed relatively the same as baseline rates. The change in praise rates significantly decreased the rate of problem behavior. Problem behavior ranged from 0.5-2 per minute during baseline and decreased to 0.2-0.6 per minute after the implementation of the intervention. This study shows that the use of reprimands with little praise created high incidences of problem behavior in comparison to high praise with the same amount of reprimands. Praise decreases problem behavior even when reprimands are



used. A high rate of praise allows teachers to effectively manage the behavior of students and creates an optimal positive learning environment at which reprimands alone cannot.

The Sutherland, Wehby, and Yoder study (2002) focused on the effects of OTR on praise rates of teachers. In their research they found a correlation between high OTR, academic talk, and praise. Increased OTR will result in an increase of many other evidence-based practices such as praise, error correction, and feedback. The more a student responds the more a teacher has the opportunity to give feedback. Students are able to gauge their own learning based on this feedback. Although praise is a component of CW-FIT, increasing OTRs may impact the rate of praise. This may impact the effectiveness of CW-FIT.

### **Purpose of Study**

Research shows evidence of the effectiveness of high OTRs and praise used with students that exhibit challenging behavior. However, there is a lack of research on these practices used within CW-FIT in a small group special education setting. The purpose of this research is to increase understanding of the effectiveness of CW-FIT in a small group special education setting and the effects of added OTRs within CW-FIT for students with academic and behavioral difficulties.

### **Research Questions**

To address these limitations in research, the study sought to answer the following questions:

1. What are the impacts of CW-FIT on active engagement, disruptive behaviors, and correct responses for students with academic and behavioral risks in a special education small group setting?

2. What are the impacts of increased opportunities to respond within CW-FIT on active engagement, disruptive behaviors, and correct responses for students with academic and behavioral risks in a special education small group setting?

### **Methods**

#### **Participants**

Participants included three elementary school students identified as having academic and behavioral difficulties. Students were classified under IDEA as having a disability and had an active Individualized Education Program (IEP) that included a behavioral goal. Students were nominated by staff of the participating school district to participate in the study due to their behavioral challenges and academic needs. Participants were enrolled in the study when parents provided signed consent.

**Derek.** Derek was an 8-year-old Caucasian male in third grade at the time of the study. Derek received services in a self-contained special education classroom and resource classroom for 180 minutes per day under the classification of *autism*. Previous testing showed Derek performed in the low average range in math and reading according to the Woodcock-Johnson III Tests of Achievement (WJ-III). Derek's cognitive assessments showed his abilities fell in the average range (full scale IQ=102) as measured by the Wechsler Intelligence Scale for Children-Fourth Edition (WISC-IV). The Behavioral Assessment System for Children, Second Edition (BASC-2) showed Derek exhibited *atypical behaviors* and *hyperactive behaviors* in the clinically significant range. Derek had a behavioral intervention plan previous to this study to address non-compliance and independently entering the classroom. This behavioral intervention plan was not used during the study.

**Joshua.** Joshua was an 11-year-old Caucasian male in sixth grade at the time of the study. He received services in a self-contained special education classroom for 360 minutes per

day under the classification of *autism*. The WJ-III showed Joshua had average basic reading skills (standard score=90) and below average math skills (standard score=62). According to the Comprehensive Test of Nonverbal Intelligence (C-TONI) Joshua had below average cognitive abilities (nonverbal IQ=76). Joshua's behavior was considered clinically significant as measured by the BASC-2 (Behavior Symptom Index= 77). Joshua's behavior challenges previous to the study mostly involved frequent off-task behavior characterized by staring away from the teacher and not responding or engaging in the lesson.

**Trent.** Trent was a 10-year-old Caucasian male in fifth grade at the time of the study. Trent received services in a self-contained special education classroom and resource classroom for 180 minutes per day under the classification of other health impaired (OHI). According to the WJ-III, Trent performed in the low average range in math (standard score=84), writing (standard score=84), and oral language (standard score=84). Trent had average cognitive abilities as measured by cognitive assessments (General Ability Index=93). Trent exhibited *atypical behavior* and *attention problems* that were considered clinically significant according to the BASC-2. Trent was selected for the study due to his difficulty with interacting with other peers appropriately. Nominators of participants believed Trent would benefit from social skill instruction. He struggled to appropriately engage in conversation with peers, because he was often telling peers what to do. This behavior also often led Trent to talk out during instruction.

### **Setting**

This study was conducted in a six-week summer practicum for special education teacher candidates with students with high incidence disabilities. The participants were part of the summer practicum and joined a class of approximately 15 students with three student teachers for specialties including physical education, music, and art. However, the study itself was

conducted in a separate classroom from the other students in the summer practicum. The participants received academic and behavioral instruction in a small classroom with a licensed special education teacher (the first author of the study). The special education teacher had two years of experience teaching students with mild/moderate disabilities and completed training to implement CW-FIT prior to the study. The teacher provided daily behavioral and social skills instruction as part of the CW-FIT program for 10 minutes. Then the students participated in 25 minutes of reading instruction and 25 minutes of math instruction.

### **Data Collection**

Sessions were videotaped and observations were made from the recordings. Trained observers measured all dependent and independent variables using the *Multi-Option Observation System for Experimental Studies* (MOOSES) (Tapp, Wehby, & Ellis, 1995). Observers used MOOSES to record frequency and duration behaviors. Frequency behaviors included correct responses and disruptive behaviors of the students, and the OTRs, praise, and reprimands of the teacher. Duration behaviors included active engagement. The students were monitored and recorded during the first 15 minutes of the reading lesson.

**Observer Training.** Three observers with undergraduate degrees in special education, communication disorders, and elementary education were trained with practice video recordings to calculate all variables. Observers were trained on the definitions of each variable and memorized definitions in order to effectively and efficiently collect data. During training, observers had to reach 80% interobserver agreement (IOA) before beginning to code data from the study.

**Treatment Fidelity.** A procedural fidelity checklist was completed following each session by an observer to ensure CW-FIT was implemented as outlined. This checklist included

procedures such as rules displayed, point goal displayed, and use of a timer. An additional checklist was used to ensure the MotivAider was set at the appropriate rate for the correct intervention phases. In this study, CW-FIT was implemented with 95% accuracy over all sessions with a range of 72%-100%. See Appendix B for the checklists example and definitions for rating the items.

**Interobserver Agreement.** During 30% of the sessions IOA was calculated. The MOOSES data gathering application calculated IOA by the number of agreements divided by the number of agreements plus disagreements multiplied by 100. The MOOSES program allowed for a three-second period of time for an occurrence of behavior to be coded. This means that the observers had to code the same behavior within three seconds to count as an agreement for frequency codes. In addition, duration behaviors had to occur in the three-second window to be considered an agreement. Further observer training was provided if IOA was not above 80%. The IOA for all frequency coding including correct responses, disruptive behavior, OTRs, praise, and reprimands was 84.42%. IOA for all duration coding including active engagements was 96.29%. See Appendix C for the Observation Guidelines and Code Definitions for MOOSES CW-FIT.

**Social Validity.** Social validity was assessed by a questionnaire given to the participants in the study. The questionnaire included three open-ended questions and two yes/no questions regarding their participation in CW-FIT. These questions were used to assess what the participants liked or didn't like about CW-FIT and whether they would recommend CW-FIT for their peers. See Appendix D for the CW-FIT Student Satisfaction Survey.

**Data Analysis.** Data were gathered, graphed, and analyzed daily. This visual representation was used for phase change decisions, as well as the overall analysis of the

effectiveness of the intervention. Graphed data were analyzed for changes in levels and trends. For example, if within a phase on-task behavior stayed above 80% over several trials, it was predicted that the level of the data would stay the same if continued in future trials. Examining the levels and trends helped to determine if there was variability seen within phases (Kennedy, 2005). If variability of data was excessive, there was a lack of experimental control and as such, it was difficult to draw conclusions from the data. When the data were stable, the study moved to the next phase. As the study continued through phases, the separation of phases was also examined. Data with distinct separation between phases showed a stronger functional relation between the dependent and independent variables. If there was overlap between phases and not a clear separation between phases, there once again was a lack of experimental control and minimal to no conclusions could be drawn from the data. With the use of visual analysis the study demonstrated experimental control as well as showed the effectiveness of the interventions.

### **Student Measures**

**Active engagement.** Active engagement was defined as the student appropriately working on the assigned or approved activity. This behavior included reading orally, writing words, or answering questions. With the use of the MOOSSES program, observers calculated the duration of active engagement, passive engagement, and disengagement. Active engagement was graphed as the percentage of time that the student was actively engaged.

**Correct responses.** During instruction, observers used a frequency count to track the correct responses for individual students. A correct response was defined as a correct response to academic instruction or academic behavior within five seconds. This included answers or responses to teacher questions. For example, if a teacher gave an OTR such as “What is word

one (cat)?” and the student responded correctly “cat,” this was marked as a correct response. If the student responded within five seconds incorrectly, such as “dog”, the observer marked the response incorrect. If the student didn’t respond within five seconds, this was marked as a non-response. Percent of correct responding was calculated as correct responses/ (correct responses + incorrect responses + non-responses).

**Disruptive behavior.** Disruptive behavior was defined as any physical or verbal behavior a student engages in that disrupts or distracts from instruction. Examples of disruptive behavior include talking out without raising hand when expected by the teacher, arguing, name calling, out of seat without permission, and using materials inappropriately (e.g., throwing, hitting, or tearing materials). Observers used a frequency count to track the occurrences of disruptive behaviors.

See Appendix C for further definitions or examples of the student measures in the Observation Guidelines & Code Definitions for MOOSES CW-FIT.

### Teacher Measures

**Opportunities to respond.** An instructional question or statement from the teacher to the group of students or an individual student that seeks an academic response orally or publicly was defined as an OTR. Examples include, “What is word one?”, “What is the first step to solve the problem?”, “Solve problem two.”, or “Sally, did you reach your personal goal today?” Observers measured OTRs by using a frequency count.

**Praise.** Praise was defined as any time a teacher verbally states specific approval of a student’s behavior over or above a simple acknowledgement of a correct response to a question. Praise included verbal responses such as “Great job raising your hand!” or “Your handwriting is improving!” Non-examples included “Thank you.” or “Good job.” Observers used a frequency

count to measure praise throughout the session. They tracked praise to an individual such as, “Billy, I like the way you did that sum!” separately from praise to a group such as, “Everyone is sitting quietly, great!” Observers used a frequency count to measure praise statements to individuals, as well as praise statements to the group.

**Reprimands.** A reprimand included verbal comments such as scolding, negative statements about behavior indicating disapproval with student’s social behavior, or comments used with the intent to stop the student from misbehaving. Redirection by the teacher and statements of negative consequences by the teacher were also included in this category. Examples included, “I told you to sit down.” or “John, you need to stay in your seat.” Observers used a frequency count to measure reprimands to individuals as well as reprimands to the group.

See Appendix C for further definitions or examples of the teacher measures in the Observation Guidelines & Code Definitions for MOOSES CW-FIT.

### **Intervention Procedures**

The teacher used the Level 4 of the *Reading Mastery Signature Edition (RMSE)* program during the reading instruction. The *RMSE* program is a researched-based program that uses direct instruction with scripted OTRs (National Institute for Direct Instruction, 2015). The students engaged in the similar tasks during this observation period. These tasks included accurately reading words with specific phonics skills and defining vocabulary words that would later be used in the text as part of the *RMSE* program. Observation during this period of the program ensured that the students engaged in and performed similar tasks during the 15 minutes of observation.

Although the *RMSE* program had scripted OTRs, for the purpose of this study the teacher used an electronic cueing device to control the rate of delivery of the OTRs. The teacher only



provided OTRs when signaled by a MotivAider to ensure fidelity in the intervention. The RMSE program remained unmodified, but OTR rates were delivered at a different pace depending on the signal of the MotivAider. A MotivAider is a device that can be set to vibrate or beep at specific intervals of time (Levinson, 2010). The MotivAider was worn by the teacher and was set to vibrate at specific intervals according to the intervention used. This way the students did not hear the signal given to the teacher.

**Baseline.** During the baseline phase, the teacher did not use a behavioral management system, meaning no specific rewards or consequences were given for appropriate or inappropriate behavior. With no behavioral management system, the dependent variables were measured in an environment with little to no positive reinforcement. The teacher set the MotivAider to one-minute increments at which the teacher gave an OTR. This measured where the students were performing behaviorally and academically without intervention. During baseline the teacher gave an average of 1.16 OTRs per minute, 1.05 praise statements to individuals per session (15-minutes), and 0.45 praise statements to the group per session.

**Intervention phases.** In this study two separate intervention conditions were compared. Each intervention phase included the use of Class-Wide Function-Based Intervention Team Program (CW-FIT) a group contingency behavior management system as outlined in the next section. The primary difference between the two conditions was that in one, different rates of OTR were used.

***CW-FIT with low OTRs.*** The teacher followed a previous outlined protocol to implement CW-FIT. First, the teacher directly taught the skills (a) gaining teacher's attention, (b) following directions, and (c) ignoring inappropriate behaviors. These skills were taught using a direct instruction model: teacher model, teacher-student and student-student role-play,

practice, and review. The teacher spent 10 minutes each day at the beginning of class teaching and reviewing these skills during the intervention period of these studies. The teacher posted these skills and the steps to follow them in the classroom.

Following the teaching of these skills the group began the CW-FIT program. In this part of the intervention students are usually divided into teams of two to five students. If a student continues to show problem behavior while on their team over a period of time, they are moved to an individual team. In this study, children were on their own team. This is considered an independent group contingency, which is a deviation from the CW-FIT program. Although students were on their own teams, they were still working for the same reward as a group. During the CW-FIT program the teacher determined a criterion or set amount of points the student must earn during the program to earn a reward. Rewards included free-time, painting, music, games, stickers, prizes, etc. The teacher set a timer to ring every two to three minutes while using CW-FIT. When the timer beeped, the teacher awarded points to each student who was engaged in appropriate behaviors as outlined by the posted skills (how to gain teacher's attention, following directions, and ignoring inappropriate behavior). During this phase the teacher gave praise when giving the points as required in the CW-FIT program. This means the teacher gave behavioral praise at a rate of one behavioral praise every 2-3 minutes averaging a total of 5-8 total praise statements throughout a 15-minute session. At the end of the lesson, each child that met the previously determined criterion was given the reward.

During this intervention, the MotivAider was set at 1-minute intervals to signal to the teacher to give an OTR. This means that one OTR was given per minute averaging a total of 15 OTRs in the first 15 minutes of the lesson. This allowed for the effects of CW-FIT with low OTRs to be measured. This ensured that the OTR rates were not a conflicting variable in

comparison to baseline. The teacher gave on average 1.11 OTRs, 0.17 praise statements to individuals, and 0.57 statements to the group per minute during this phase of the study.

***CW-FIT with high OTRs.*** The teacher used CW-FIT in this phase as outlined in the previous section along with high OTRS. The MotivAider was set at 15-second intervals to signal to the teacher to given an OTR. The teacher was given a signal for four OTRs per minute averaging a total of 50-80 OTRs in a 15-minute observation. The teacher gave on average 6.22 OTRs, 0.91 praise statements to individuals, and 3.34 praise statements to the group per minute in this portion of the study.

### **Research Design**

This study used an alternating treatment design. An alternating treatment design is a way to compare two treatments within a single subject (Barlow & Hayes, 1979). The study began with a baseline phase to show the rates of the dependent variables without intervention. During the second phase, the study alternated between two conditions in the form of a multi-element design. The study alternated between the interventions CW-FIT with low OTRs and CW-FIT with high OTRs. The intervention shown to be most effective was used in the final phase.

### **Results**

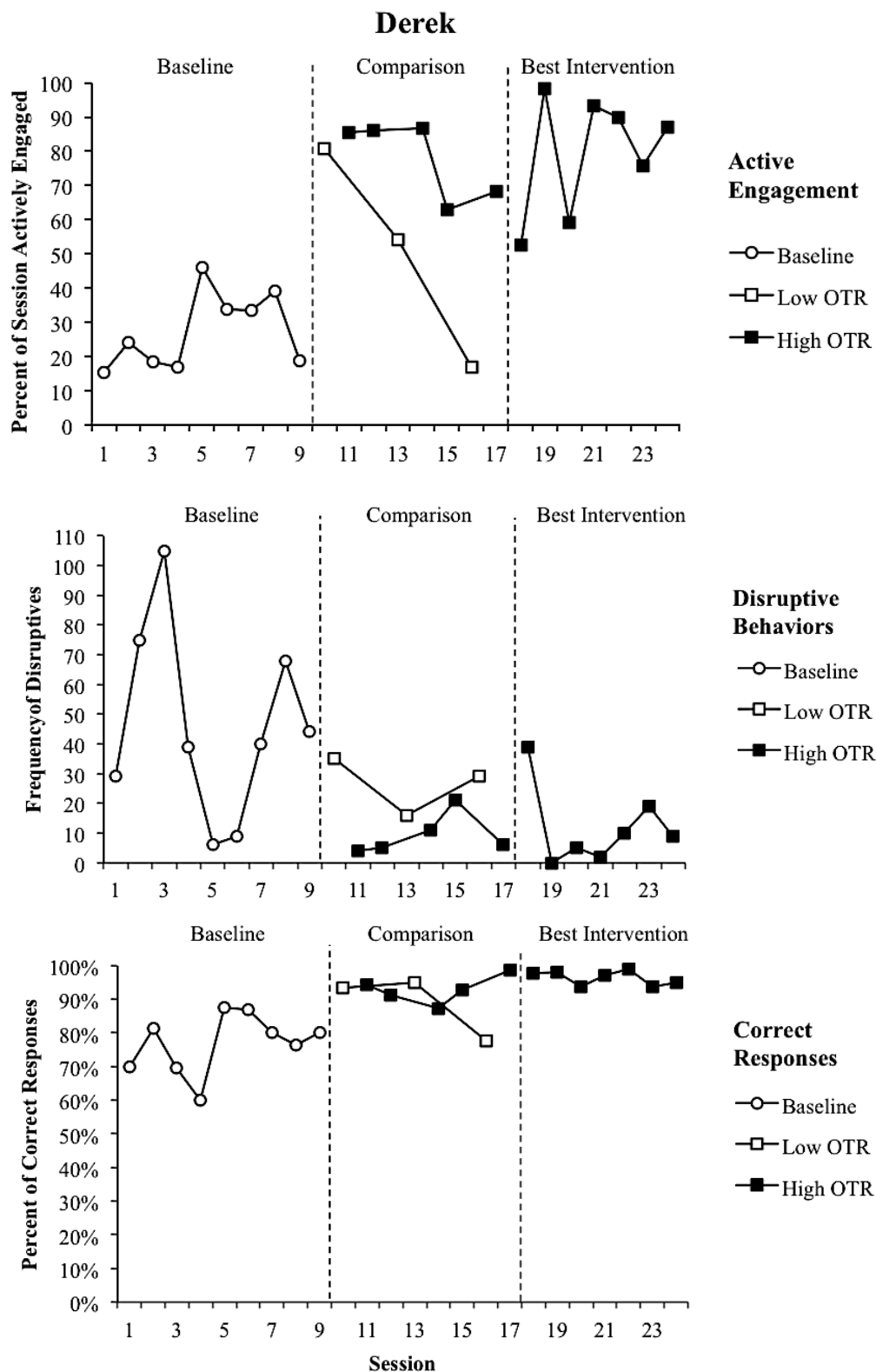
The results section is organized as followed. First, the results of each individual participant's active engagement, disruptive behavior, and correct responses across phases are provided. Then the results of the teacher's behaviors are discussed, including reprimands and praise. After the teacher behaviors, the overall effects of the intervention on the students' behavior are given. Last the results from the social validity survey are provided.

## Derek

**Active engagement.** As seen in Figure 1, there was some variability in Derek's active engagement within phases, however there was no overlap between baseline and high OTR phases. During the CW-FIT intervention, Derek's active engagement trended downward, whereas in the high OTR phase the active engagement trended upward. This showed that CW-FIT with added OTRs resulted in the highest levels of active engagement. Derek's active engagement increased significantly from an average of 28.6% during baseline, 50.53% during low OTRs, and to 78.08% with the use of the high OTR intervention.

**Disruptive behavior.** During baseline, Derek reached significantly higher levels of disruptive behavior in comparison to the intervention phases. There was some overlap between intervention phases, but ultimately it appeared that CW-FIT with added OTRs resulted in a greater decrease in disruptive behaviors. Derek's disruptive behaviors decreased from a baseline average rate per minute of 3.13 instances, to 1.78 in the low OTR phase, and 0.75 in the high OTR phase.

**Correct responses.** Derek showed a lower level of correct responding during baseline phase in comparison to intervention phases. CW-FIT with added OTRs showed a stable level of performance and resulted in the highest percentage of correct responding. Derek's correct responding increased from an average baseline rate of 76.79% to 88.70% during the low OTR phase and 96.65% during the high OTR phase.



*Figure 1.* Derek's active engagement, disruptive behavior, and correct responses. Active engagement was calculated by minutes actively engaged/minutes of session  $\times$  100 and graphed as the percentage of the observation that the student was actively engaged. Disruptive behaviors are graphed as the number of occurrences during the session. Correct responses were calculated as correct responses/(correct responses + incorrect responses + non-responses)  $\times$  100 and are graphed as a percentage.

## Joshua

**Active engagement.** Joshua's active engagement rates showed distinct differences in levels as seen in Figure 2. CW-FIT with added OTRs resulted in the highest rates of active engagement in comparison to baseline and the CW-FIT phase. Joshua's active engagement increased substantially from an average of 21.17% during baseline and 34.75% during the low OTR to 79.17% with the use of the high OTR intervention.

**Disruptive behaviors.** There was some overlap seen between phases for Joshua's disruptive behaviors. There appeared to be an increase in disruptive behaviors with the initial implementation of the intervention phases, which created most the overlap. Despite the initial increase in disruptive behaviors at the beginning of the intervention, rates stabilized over sessions showing a greater decrease with the use of CW-FIT with high OTRs. Joshua's disruptive behaviors increased from a baseline rate average of 0.72 instances per minute to 1.63 in the low OTR phase. However, his disruptive behaviors decreased to an average of 0.35 in the high OTR phase.

**Correct responses.** Throughout baseline Joshua's correct responding appeared to trend downward. With the implementation of the intervention phases Joshua's correct responding increased and stayed at stable levels. CW-FIT with added OTRs created the highest level of correct responding. Joshua's correct responding increased from a baseline rate of 76.79% average to 88.70% during the low OTR phase and 96.65% during the high OTR phase.

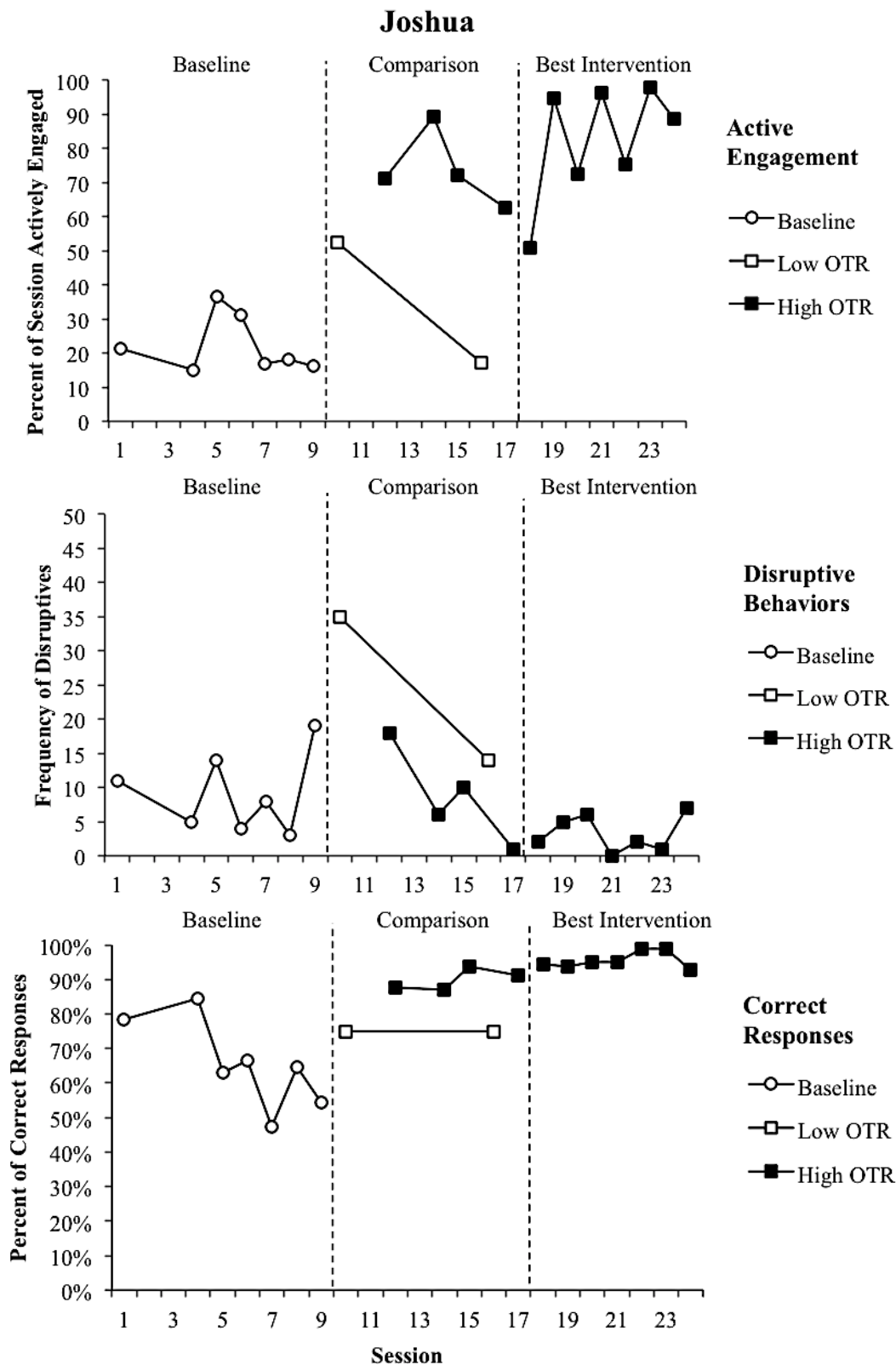


Figure 2. Joshua's active engagement, disruptive behaviors, and correct response. Active engagement was calculated by minutes actively engaged/minutes of session x 100 and graphed as the percentage of the observation that the student was actively engaged. Disruptive behaviors are graphed as the number of occurrences during the session. Correct responses were calculated as correct responses/(correct responses + incorrect responses + non-responses) x 100 and are graphed as a percentage.

## Trent

**Active engagement.** Trent's active engagement appeared to overlap with the initial implementation of the interventions as seen in Figure 3. This continued until Trent's third session of the CW-FIT phase, which showed a dramatic decrease in level. Despite this outlier, the interventions appeared to separate over sessions. The high OTR intervention ultimately showed the highest levels of active engagement. Trent's active engagement increased from an average of 32.7% during baseline to 54.77% during the low OTR phase and 83.60% during the high OTR phase.

**Disruptive behaviors.** Trent's disruptive behaviors showed more overlap between phases. Baseline levels overall were higher than the intervention phases. Due to the overlap between intervention phases it is difficult to visually determine which intervention was most effective. Based on averages CW-FIT with high OTRs was most effective in decreasing disruptive behaviors. Trent's disruptive behaviors decreased from an average rate per minute of 1.45 instances during baseline to 0.98 in the low OTR phase and 0.61 with the high OTR intervention.

**Correct responses.** During baseline, Trent's correct responding started at a very high level, but trended downward over time. Both interventions showed high levels of correct responding. However, similar to baseline, Trent's correct responding trended downward over sessions during the CW-FIT with low OTRs intervention. The CW-FIT with high OTRs showed the most stable levels of correct responding. Trent's correct responding increased from a baseline rate of 85.07% to 90.51% during the low OTR phase and 92.37% during the high OTR phase.



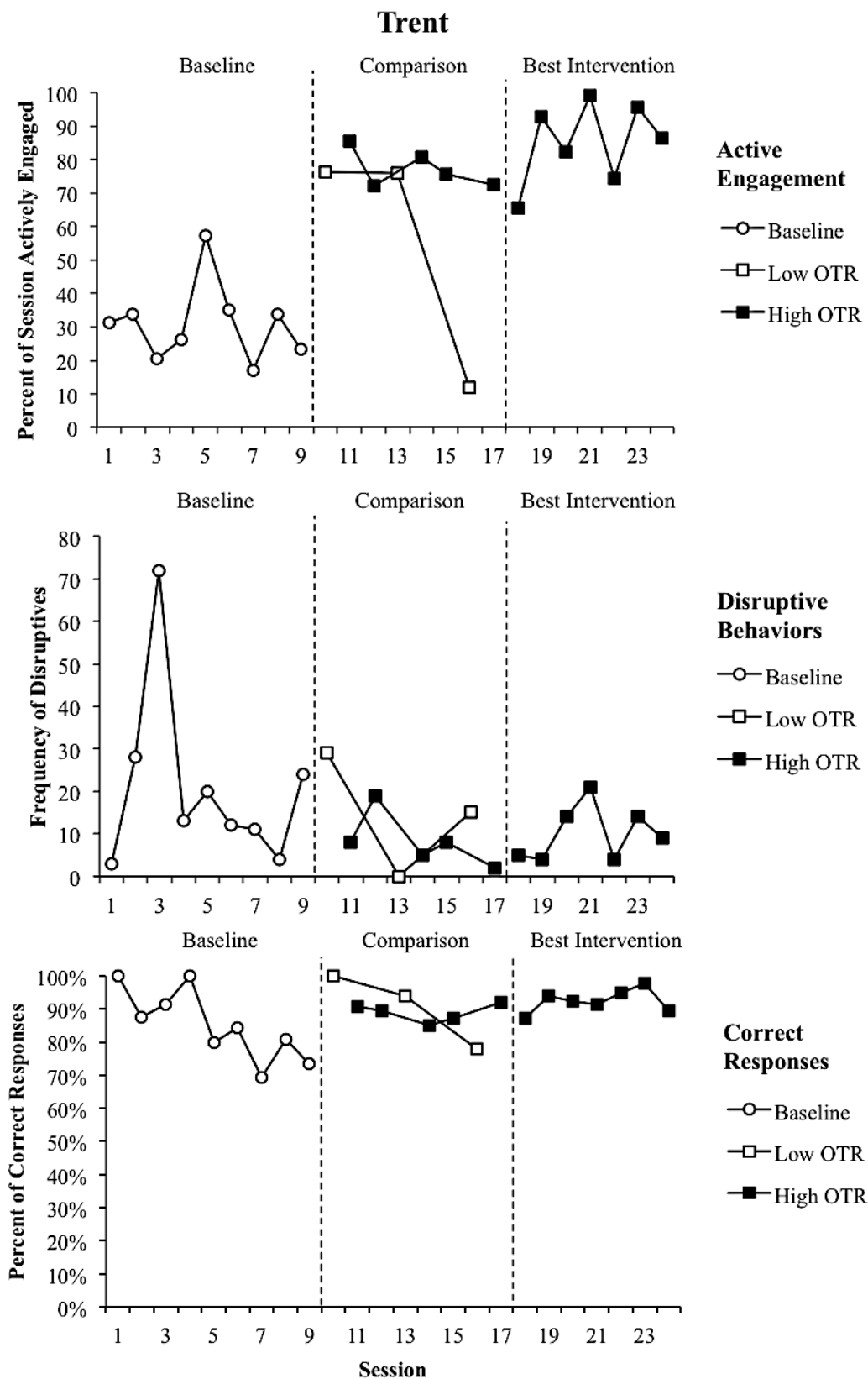


Figure 3. Trent's active engagement, disruptive behaviors, and correct response. Active engagement was calculated by minutes actively engaged/minutes of session x 100 and graphed as the percentage of the observation that the student was actively engaged. Disruptive behaviors are graphed as the number of occurrences during the session. Correct responses were calculated as correct responses/(correct responses + incorrect responses + non-responses) x 100 and are graphed as a percentage.

## Teacher Behaviors

**Reprimands.** Individual reprimands decreased with the CW-FIT interventions for Derek and Joshua. These levels decreased even more with the use of the CW-FIT with added OTRs intervention. Individual reprimand rates to Trent increased with the use of the CW-FIT and high OTR intervention. Overall, the teacher's reprimand rates to individual students decreased from 0.39 reprimand per minute during baseline to 0.26 during CW-FIT and 0.12 during the high OTR phase. The teacher's reprimand rates to the group decreased slightly from 0.19 per minute during baseline to 0.10 during CW-FIT and 0.15 during the high OTR intervention.

**Praise.** Praise followed very similar level patterns to the OTRs. As OTRs increased praise increased. There were higher levels of individual praise during the CW-FIT with high OTRs than in baseline or the low OTR phase. The teacher praise rates increased for individuals from an average of 0.07 praise statements per minute during baseline to 0.17 during the CW-FIT phase and 0.91 in the high OTR phase. Group praise also was at the highest level during the CW-FIT with high OTRs phase. These rates continuously trended upward, meaning group praise continued to increase over trials. Group praise increased from an average of 0.29 praise statements per minute during baseline to 0.57 during CW-FIT with low OTRs and 3.34 during the high OTR phase.

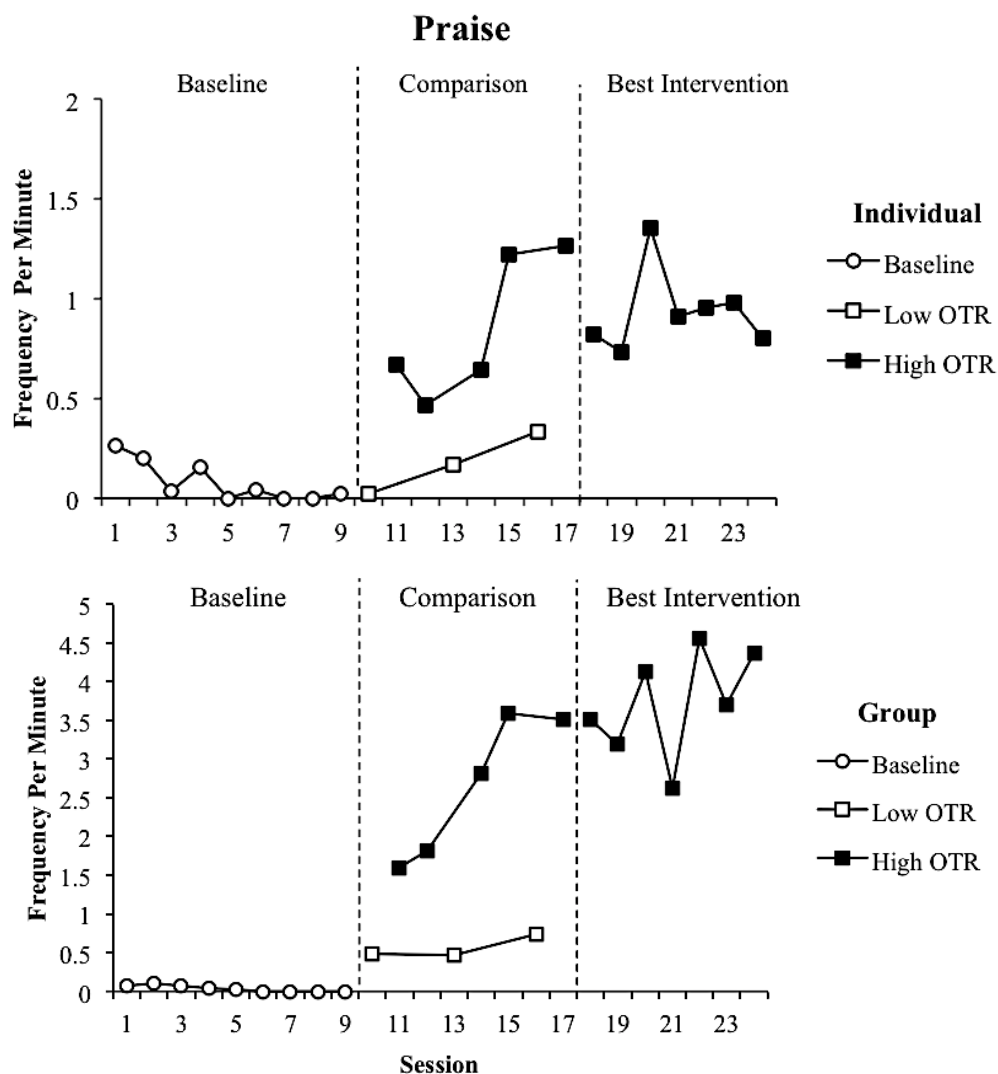


Figure 4. Praise rates given by the teacher to individuals and the group. Rates were calculated by frequency of praise/minutes of session and are graphed as average praise statements per minute.

### Overall Effects

The CW-FIT intervention increased active engagement for all three students as seen in Table 1. Derek and Trent decreased their disruptive behaviors with the implementation of the CW-FIT intervention, while Joshua increased in disruptive behaviors. All students increased their correct responding with the use of CW-FIT. There was a greater improvement seen with the use of the CW-FIT with high OTRs. All students increased their active engagement more than found in the CW-FIT phase with the use of the high OTR intervention. All students decreased their disruptive behaviors during the high OTR phase in comparison to both baseline

and CW-FIT levels. The students also increased their correct responding with the use of CW-FIT with added OTRs.

### **Social Validity**

All students completed a questionnaire to determine how they perceived CW-FIT. The students referred to CW-FIT as a game rather than program. All students communicated that they liked playing the CW-FIT game because of the opportunity to “earn prizes” and that the “game was fun.” All participants felt that other students should get to play CW-FIT “because it’s fun.” When asked what they didn’t like about CW-FIT two participants reported “nothing.” The third participant reported, “I’m very busy.” It is believed the student was referring to CW-FIT keeping the participant busy. These reports show that students enjoyed CW-FIT and found the game interesting and motivating.

Table 1

*Student Measures Across Phases*

Phase	Baseline		CW-FIT Low OTR		CW-FIT High OTR		Best Intervention (High OTR)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
<b>Active Engagement</b>								
Derek	28.60%	12.55	50.53%	32.14	80.30%	11.54	78.08%	16.76
Joshua	21.17%	8.17	34.75%	24.96	77.47%	10.26	79.81%	17.36
Trent	32.70%	13.53	54.77%	37.12	78.58%	5.89	83.60%	12.05
<b>Disruptive Behavior</b>								
Derek	3.13	30.85	1.78	9.71	0.68	7.80	0.75	12.62
Joshua	0.72	5.87	1.63	14.85	0.76	6.11	0.20	2.62
Trent	1.45	20.71	0.98	14.50	0.67	6.16	0.61	6.64
<b>Correct Responses</b>								
Derek	76.79%	8.85	88.70%	9.50	91.43%	2.98	96.65%	2.18
Joshua	63.76%	13.65	75.00%	0	89.55%	3.82	95.05%	2.72
Trent	85.07%	10.75	90.51%	11.46	88.10%	2.50	92.37%	3.26

*Note.* Data are presented in means (M) and standard deviations (SD). Active engagement was calculated by minutes actively engaged/minutes of session x 100 and is presented as the percentage of the observation that the student was actively engaged. Disruptive behaviors were calculated by the number of occurrences/minutes in a session and are presented as a rate per minute. Correct responses was calculated as correct responses/(correct responses + incorrect responses + non-responses) x 100 and presented as a percentage.

## Discussion

The purpose of this study was to understand the impacts of CW-FIT on active engagement, disruptive behavior, and correct responses for students with academic and behavioral needs in a special education small group setting. With the implementation of the CW-FIT there was an immediate change in active engagement for all participants. However, levels of active engagement showed a descending trend over time with CW-FIT and low OTRs. This shows that CW-FIT alone may not maintain high levels of active engagement with students with disabilities. There also was an initial jump in levels of correct responding when CW-FIT was introduced. Again these levels decreased overtime. This suggests that the initial effects of CW-FIT were positive, however CW-FIT was not sufficient to maintain high rates of active engagement and correct responses overtime for students with disabilities. CW-FIT may create initial change in behavior for students with disabilities, but other interventions may need to be implemented to maintain high levels of active engagement and correct responding.

During baseline students' disruptive behaviors were variable with a wide range. CW-FIT with low OTRs showed lower levels and less variability of disruptive behavior in comparison to baseline. This data further supports previous studies conducted in general education classrooms, which also showed a decrease in disruptive behaviors with the use of the CW-FIT program (Caldarella et al., 2014; Kamps et al., 2011; Kamps et al., 2015; Wills et al., 2014). From these results it is demonstrated that CW-FIT was effective in decreasing and controlling disruptive behaviors even without high OTRs for these participants.

The second research question involved understanding the impacts of added OTRs within CW-FIT on students' active engagement, disruptive behavior, and correct responses. Previous research on CW-FIT did not measure the impact of OTRs. This study demonstrated the

importance and the effectiveness of OTRs on academics and behavior, which supports evidence from previous studies (Carnine, 1976; Conroy et al., 2009; Skinner & Shapiro, 1989; Sutherland et al., 2003; West & Sloane, 1986). The combination of CW-FIT and high OTRs resulted in higher levels of active engagement, lower disruptive behaviors, and higher levels of correct responding in comparison to baseline and CW-FIT with low OTRs. Throughout sessions of CW-FIT with high OTRs levels of behavior stayed consistent showing little variability. This intervention also resulted in the highest levels of teacher praise supporting the correlation of OTRs and praise (Sutherland et al., 2002). The results indicate teachers can use high OTR rates within CW-FIT to increase students' behavioral and academic performance even more than simply using CW-FIT will. This demonstrates that CW-FIT with high OTRs is an effective intervention for students with disabilities.

This study shows that CW-FIT is a motivating behavioral management system for students with disabilities. CW-FIT can be used in a small group setting with students with disabilities to help teach and manage behavior. Specifically, in this study CW-FIT alone helped decrease and manage disruptive behaviors. However, CW-FIT alone does not engage students with disabilities enough to create high levels of active engagement and correct responding that can maintain over time. CW-FIT with high OTRs created optimal results for students with disabilities. With CW-FIT and high levels of OTRs students were actively engaged, responding, and behaved. Students with disabilities need a behavioral management program like CW-FIT, but they also need good academic instruction with high OTRs. Behavioral management programs like CW-FIT alone are not sufficient in managing behavior and improving academics for students with disabilities.

This study was conducted in a small group setting with students with disabilities that had both academic and behavioral concerns. Each participant was a different in age, academic ability, and cognitive ability. Despite these differences all students in the study improved their behavior and correct responding with the use of CW-FIT and high OTRs, further strengthening the evidence of the effectiveness of this intervention. This suggests that the intervention may be effective with other students with academic and behavior concerns in a special education setting. This study particularly addresses the concerns shown in previous research for students with autism spectrum disorders (ASD), because two of the students had the classification of ASD (Horner, et al. 2002).

### **Limitations**

There are some limitations to consider when interpreting the results of this study. This study was conducted with limited participants with varied ages and academic ability. Another limitation is that the second participant, Joshua, missed sessions. This means Joshua has missing data points limiting the ability to draw conclusions from his data. This study followed prior studies and coded the data using MOOSE for the first 15 minutes (Caldarella et al., 2014; Kamps et al., 2015, Kamps et al., 2011; Wills et al., 2014). However, the entire 25-minute session of reading was not observed and coded. This study also was conducted during a short summer program of only six weeks, which means there were limited sessions. Also due to the time constraints this study didn't remove CW-FIT to measure the effects of only high OTRs with no behavioral management system. This limits the study in showing that CW-FIT was necessary to create the high levels of behavior. It brings in to question whether the same results would occur with only the use of high OTRs. Due to the challenging behavior the participants exhibited and how motivated they were to earn the rewards from the CW-FIT program it is



predicted the students would have a lack of motivation to respond and follow rules without the CW-FIT program. However, this was not investigated in this study. These limitations may impact the generality of these findings.

### **Future Research**

Future research should include the replication of this intervention with more participants with different disability classifications in a small group special education setting. This may include students with disabilities such as EBD or specific learning disabilities. Further research could also be conducted in elementary and secondary schools, as well as across subjects such as math or writing. Horner et al. (2005) suggests that interventions should be conducted in 5 separate settings with 20 different subjects in order to demonstrate as an evidence-based practice with single-case studies. Additional research may include the removal of CW-FIT and the use of only high OTRs to better understand the limitations of CW-FIT with students with disabilities. Future research should also include addressing CW-FIT's impact on academic performance of students with and without disabilities with the use of curriculum-based measures or state testing.

### **Implications for Practice**

Students who exhibit difficulty with academics and behavior need behavioral management systems to decrease disruptive behavior and increase time on-task. These students also need engaging instruction that gives them opportunities to respond to improve their academic performance. This study demonstrates the importance and effectiveness of behavioral management systems like CW-FIT and high OTRS. Teachers in the regular or special education classroom can use CW-FIT and high OTRS to manage disruptive behavior and to increase students' correct responding.

## Conclusions

CW-FIT is a behavioral management program that can be used to help students with behavioral and academic disabilities in a small group special education setting succeed behaviorally. However, the use of the CW-FIT program solely does not ensure high levels of engagement and correct responding with this group of students. CW-FIT with high OTRs resulted in higher levels of active engagement and correct responding, as well as a decrease in disruptive behaviors in comparison to CW-FIT alone. This study demonstrated the effectiveness of CW-FIT in combination with high OTRS, which resulted in optimal outcomes for students with behavioral and academic difficulties.

## References

- Alber, S. R., Heward, W. L., & Hippler, B. J. (1999). Teaching middle school students with learning disabilities to recruit positive teacher attention. *Exceptional Children, 65*(2), 253-270. doi: 10.1177/001440299906500209
- Ashburner, J., Ziviani, J., & Rodger, S. (2010). Surviving in the mainstream: Capacity of children with autism spectrum disorders to perform academically and regulate their emotions and behavior at school. *Research in Autism Spectrum Disorders, 4*(1), 18-27. doi:10.1016/j.rasd.2009.07.002
- Barlow, D. H., & Hayes, S. C. (1979). Alternating treatments design: One strategy for comparing the effects of two treatments in a single subject. *Journal of Applied Behavior Analysis, 12*(2), 199-210. doi: 10.1901/jaba.1979.12-199
- Caldarella, P., Williams, L., Hansen, B. D., & Wills, H. (2014). Managing student behavior with Class-Wide Function-Related Intervention Teams: An observational study in early elementary classrooms. *Early Childhood Education Journal, Advance online publication*. doi: 10.1007/s10643-014-0664-3
- Carnine, D. W. (1976). Effects of two teacher-presentation rates on off-task behavior, answering correctly, and participation. *Journal of Applied Behavior Analysis, 9*(2), 199-206. doi: 10.1901/jaba.1976.9-199
- Carr, E. G., Taylor, J. C., & Robinson, S. (1991). The effects of severe behavior problems in children on the teaching behavior of adults. *Journal of Applied Behavior Analysis, 24*(3), 523-535. doi: 10.1901/jaba.1991.24-523
- Chen, X., Rubin, K. H., & Li, D. (1997). Relation between academic achievement and social adjustment: Evidence from Chinese children. *Developmental psychology, 33*(3), 518-525.

doi: 10.1037/0012-1649.33.3.518

Conroy, M., Sutherland, K., Haydon, T., Stormont, M., & Harmon, J. (2009). Preventing and ameliorating young children's chronic problem behaviors: An ecological classroom based approach. *Psychology in the Schools, 46*(1), 3-17. doi:10.1002/pits.20350

Council for Exceptional Children. (1987). *Academy for effective instruction: Working with mildly handicapped students*. Reston, VA: Author.

Gunter, P. L., & Coutinho, M. J. (1997). Negative reinforcement in classrooms: What we're beginning to learn. *Teacher Education and Special Education: The Journal of the Teacher Education Division of the Council for Exceptional Children, 20*(3), 249-264. doi: 10.1177/088840649702000306

Hinshaw, S. P. (1992). Externalizing behavior problems and academic underachievement in childhood and adolescence: causal relationships and underlying mechanisms. *Psychological bulletin, 111*(1), 127-155. doi: 10.1037/0033-2909.111.1.127

Horner, R. H., Carr, E. G., Halle, J., McGee, G., Odom, S., & Wolery, M. (2005). The use of single-subject research to identify evidence-based practice in special education. *Exceptional Children, 71*(2), 165-179. doi: 10.1177/001440290507100203

Horner, R. H., Carr, E. G., Strain, P. S., Todd, A. W., & Reed, H. K. (2002). Problem behavior interventions for young children with autism: A research synthesis. *Journal of Autism and Developmental Disorders, 32*(5), 423-446. doi: 10.1023/A:1020593922901

Jorm, A. F., Share, D. L., Matthews, R., & Maclean, R. (1986). Behaviour problems in specific reading retarded and general reading backward children: A longitudinal study. *Journal of Child Psychology and Psychiatry, 27*(1), 33-43. doi: 10.1111/j.1469-7610.1986.tb00619.x

- Kamps, D., Wills, H., Dawson-Bannister, H., Heitzman-Powell, L., Kottwitz, E., Hansen, B., & Fleming, K. (2015). Class-wide function-related intervention teams “CW-FIT” efficacy trial outcomes. *Journal of Positive Behavior Interventions*. Advance online publication. doi: 10.1177/1098300714565244
- Kamps, D., Wills, H. P., Heitzman-Powell, L., Laylin, J., Szoke, C., Petrillo, T., & Culey, A. (2011). Class-wide function-related intervention teams: Effects of group contingency programs in urban classrooms. *Journal of Positive Behavior Interventions*, 13(3), 154-167. doi: 10.1177/1098300711398935
- Kennedy, C. (2005) Single-case designs for educational research. Boston, MA: Pearson Education, Inc.
- Levinson, S. A. (2010). About the MotivAider and how it helps change habits. Retrieved from <http://habitchange.com/motivaider.php>
- Lewis, T. J., Hudson, S., Richter, M., & Johnson, N. (2004). Scientifically supported practices in emotional and behavioral disorders: A proposed approach and brief review of current practices. *Behavioral Disorders*, 29(3), 247-259.
- MacSuga-Gage, A. S., & Simonsen, B. (2015). Examining the Effects of Teacher-Directed Opportunities to Respond on Student Outcomes: A Systematic Review of the Literature. *Education and Treatment of Children*, 38(2), 211-239.
- Masten, A. S., Coatsworth, J. D., Neemann, J., Gest, S. D., Tellegen, A., & Garmezy, N. (1995). The structure and coherence of competence from childhood through adolescence. *Child development*, 66(6), 1635-1659. doi: 10.1111/j.1467-8624.1995.tb00956.x
- McGee, R., Williams, S., Share, D. L., Anderson, J., & Silva, P. A. (1986). The relationship

- between specific reading retardation, general reading backwardness and behavioural problems in a large sample of Dunedin boys: A longitudinal study from five to eleven years. *Journal of Child Psychology and Psychiatry*, 27(5), 597-610. doi: 10.1111/j.1469-7610.1986.tb00185.x
- National Institute for Direct Instruction. (2015). Reading mastery signature edition. Retrieved from <http://www.nifdi.org/programs/reading/reading-mastery>
- Reschly, A. L., & Christenson, S. L. (2006). Prediction of dropout among students with mild disabilities a case for the inclusion of student engagement variables. *Remedial and Special Education*, 27(5), 276-292. doi: 10.1177/07419325060270050301
- Skinner, C. H., & Shapiro, E. S. (1989). A comparison of taped-words and drill interventions on reading fluency in adolescents with behavior disorders. *Education & Treatment of Children*, 12(2), 123-133. doi: 10.1016/0022-4405(92)90024-Y
- Stage, S. A., & Quiroz, D. R. (1997). A meta-analysis of interventions to decrease disruptive classroom behavior in public education settings. *School Psychology Review*, 26(3), 333-368.
- Stormont, M. A., Smith, S. C., & Lewis, T. J. (2007). Teacher implementation of precorrection and praise statements in Head Start classrooms as a component of a program-wide system of positive behavior support. *Journal of Behavioral Education*, 16(3), 280-290. doi: 10.1007/s10864-007-9040-3
- Sutherland, K. S. (2000). Promoting positive interactions between teachers and students with emotional/behavioral disorders. *Preventing School Failure: Alternative Education for Children and Youth*, 44(3), 110-115. doi: 10.1080/10459880009599792
- Sutherland, K. S., Alder, N., & Gunter, P. L. (2003). The effect of varying rates of opportunities

to respond to academic requests on the classroom behavior of students with EBD.

*Journal of Emotional and Behavioral Disorders*, 11(4), 239-248. doi:

10.1177/10634266030110040501

Sutherland, K. S., Lewis-Palmer, T., Stichter, J., & Morgan, P. L. (2008). Examining the influence of teacher behavior and classroom context on the behavioral and academic outcomes for students with emotional or behavioral disorders. *The Journal of Special Education*, 41(4), 223-233. doi: 10.177/0022466907310372

Sutherland, K. S., & Wehby, J. H. (2001). Exploring the relationship between increased opportunities to respond to academic requests and the academic and behavioral outcomes of students with EBD. *Remedial and Special Education*, 22(2), 113. Retrieved from <http://search.proquest.com/docview/236288609?accountid=4488>. doi:

10.1177/074193250102200205

Sutherland, K. S., Wehby, J. H., & Yoder, P. J. (2002). Examination of the relationship between teacher praise and opportunities for students with EBD to respond to academic requests. *Journal of Emotional and Behavioral Disorders*, 10(1), 5-13. doi:

10.1177/074193250102200205

Tapp, J., Wehby, J., & Ellis, D. (1995). A multiple option observation system for experimental studies: MOOSES. *Behavior Research Methods, Instruments, & Computers*, 27(1), 25-31. doi: 10.3758/BF03203616

U.S. Department of Education. (2008). *30<sup>th</sup> annual report to Congress on the implementation of the Individuals with Disabilities Education Act, 2008*. Washington, DC: U.S. Department of Education, Office of Special Education Programs.

Utah State Board of Education. (2013). *Special education rules*. Salt Lake City, UT: Utah State

- Office of Education. Retrieved from <http://schools.utah.gov/sars/Laws/Rules.aspx>
- West, R. P., & Sloane, H. N. (1986). Teacher presentation rate and point delivery rate effects on classroom disruption, performance accuracy, and response rate. *Behavior Modification, 10*(3), 267-286. doi: 10.1177/01454455860103001
- Wills, H. P., Iwaszuk, W. M., Kamps, D., & Shumate, E. (2014). CW-FIT: Group contingency effects across the day. *Education and Treatment of Children, 37*(2), 191-210.
- Wills, H. P., Kamps, D., Hansen, B., Conklin, C., Bellinger, S., Neaderhiser, J., & Nsubuga, B. (2009). The classwide function-based intervention team program. *Preventing School Failure: Alternative Education for Children and Youth, 54*(3), 164-171. doi: 10.1080/10459880903496230
- Wood, S. J., & Cronin, M. E. (1999). Students with emotional/behavioral disorders and transition planning: What the follow-up studies tell us. *Psychology in the Schools, 36*(4), 327-345. doi: 10.1002/(SICI)1520-6807(199907)36:4<327::AID-PITS6>3.0.CO;2-P



## APPENDIX A: Review of the Literature

Originally this study was to be focused specifically on students with the classification of emotional or behavioral disorder (EBD). Due to the availability of participants, the qualifications to participate in the study were changed to students who displayed both academic and behavioral difficulties. The students did not need to have the classification of EBD. Because of this, no students had the actual classification of EBD, but were still participants who exhibited difficult behavior and had academic concerns. This review of literature was for students with EBD and for students who engage in maladaptive behavior.

### **Emotional and Behavioral Disorder**

Students with emotional and behavior disorders (EBD) are a high-risk population due to the characteristics of their disability and the difficulty of providing appropriate instruction to students with EBD. EBD is defined under Individuals with Disabilities Education Improvement Act (Utah State Board of Education, 2013, p. 34) as:

A condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects the child's educational performance:

- (a) an inability to learn that cannot be explained by intellectual, sensory, or health factors,
- (b) an inability to build or maintain satisfactory interpersonal relationships with peers and teachers,
- (c) inappropriate types of behavior or feelings under normal circumstances,
- (d) a general pervasive mood of unhappiness or depression, or
- (e) a tendency to develop physical symptoms or fears associated with personal or school problems.

These characteristics of EBD affect not only the child's behavior, but also many other facets of his or her life.

Children with EBD face many challenges throughout the course of their life. Research has shown outcomes for students with EBD include poor academic scores, peer rejection, mental health concerns, and negative effects on family relationships (Campbell, 1995; Conroy, Sutherland, Haydon, Stormont, & Harmon, 2009; Shonkoff & Phillips, 2000). Students with EBD are also less likely to attend post-secondary school or training and less likely to become employed compared to students with specific learning disabilities (Wagner, 2014). Newman et al. (2011) found that up to eight years after high school 66% of students with EBD had involvement with the criminal justice system. Parents, family members, and educators face the challenge of improving these outcomes for students with EBD.

Although EBD mainly affects behavior, it also drastically affects the child's academic performance and as a result, his or her overall quality of life. Teachers often spend extensive time addressing the behaviors of a child with EBD, and consequently provide very little academic instruction. Research has shown most interactions between teachers and students with EBD are negative, teachers do not consistently use research-based practices, and teachers provide more instruction to students without disruptive behavior than to students with disruptive behavior (Carr, Taylor, & Robinson, 1991; Shores & Wehby, 1999; Wehby, Lane, & Falk, 2003). Sutherland and Wehby (2001) described an inverse relationship between the rate of challenging behaviors and rate of teacher instruction: high rates of challenging behaviors result in low rates of academic instruction. Wehby (2003) found students with EBD received academic instruction for only 30% of their day. These factors contribute to the negative outcomes for children with EBD. So much focus is placed on the behavior of students with EBD that educators often overlook their academic needs. Researchers suggest that this is a main reason students with EBD have such negative outcomes (Levy & Chard, 2001; Wehby et al., 2003).

Students with EBD need behavioral support, as well as good academic instruction. Teachers need strategies to effectively manage the behavior and academic needs of children with EBD. More research needs to be conducted to identify effective behavioral and academic interventions for students with EBD (Wehby et al., 2003).

### **Academic and Behavioral Skill Instruction with Students with EBD**

A student classified under IDEA as having an emotional or behavioral disorder exhibits behavior that impedes his or her ability to access the general curriculum. However, students with EBD have the ability to achieve academically, meaning they do not have a learning disability or this is not their primary disability. Based on this information one would think teachers and parents should focus on the behavior of children with EBD and this would in turn improve their academics. It could be assumed that if a teacher could shape the behavior of a student with EBD, the student should be able to access the general curriculum. However, statistics do not show that student's with EBD are achieving academically. In fact, when compared to students with other classifications under IDEA, students with EBD have the lowest grade-point average and have the highest drop-out rate of 45% (Reschly & Christenson, 2006; Sutherland & Webby, 2001; U.S. Department of Education, 2008; Wood & Cronin, 1999).

There are many factors that contribute to the academic and behavioral struggle of students with EBD. Researchers have tried to find the relationship between academic success and problem behavior (Sutherland, Lewis-Palmer, Stichter, & Morgan, 2008). Some researchers have found students that struggle academically beginning as early as kindergarten with no serious behavior problems (Jorm, Share, Mathhews, & Maclean, 1986; McGee, Williams, Share, Anderson, & Silva, 1986). As these same students continue to struggle, they begin to display serious behaviors. Jorm et al. (1986) and McGee et al. (1986) believe these students resort to

acting out to escape from the difficulty of academic demands. Other researchers have shown that students that exhibit disruptive behavior in earlier grades will in later grades show academic failure (Chen, Rubin, & Li, 1997; Masten et al., 1995). Although all research supports that there is some correlation between academic success and problem behavior, it is not clear which comes first. For this reason Sutherland et al. (2008) argues researchers, educators, and parents must focus their efforts not solely on behavior of students with EBD, but also on academic interventions. Sutherland et al. (2008) believes researchers have focused a great deal on challenging behavior for students with EBD, but the academic success of these students has stayed relatively the same. From this evidence, it can be concluded that the best interventions for students with EBD will address not only behavior, but also academics.

Lewis, Hudson, Richter, and Johnson (2004) examined several evidence-based practices to increase the academic success of students with EBD. Of all the evidence-based practices identified in the literature, Lewis et al. (2004) identified the most researched and the most effective practices. These practices included direct instruction, teacher praise/reinforcement, opportunities to respond during instruction, positive behavior support (including functional behavioral assessment-based interventions, social skill instruction, and self-management interventions), and school-wide systems of positive behavior support. Why were these practices identified as effective? What were their effects on the academic achievement and behavior of students with EBD? Is there research on the effects of these practices in conjunction with one another? Examining each of these practices individually and in relation to one another will allow researchers and teachers to identify the most effective practices for students with EBD.

### **Social Skills Instruction**

Social skills instruction is an evidence-based practice in which skills are explicitly taught to students. Meta-analyses of studies on social skill instruction have shown this practice has an overall low effect size (Lewis et al., 2004; Quinn, Kavale, Mathur, Rutherford, Jr., & Forness, 1999). Despite these results, Lewis et al. (2004) suggests that social skill instruction should be viewed in a “broader context” to understand the importance of teaching skills based on the social needs of students. Although social skill instruction does not statistically prove to be greatly effective, teachers cannot and should not avoid directly teaching social skills students are missing, especially for students with EBD (Bullis, Walker, & Sprague, 2001; Wilhite, 2010). Although an overall analysis shows social skills do not cause a great effect, individual studies have shown social skill instruction to be effective.

Kamps, Tankersley, and Ellis (2000) conducted a study with students in kindergarten and first grade who were considered at risk for behavioral problems. The intervention included several components over a two-year period. First the students were directly taught social skills including skills such as sharing, play and assisting during play, appropriate peer affection (high fives, hugging, patting backs), and agreeing with friends. Teachers rewarded the students when they were “caught” using the social skills throughout the study. Parents were provided social skills training in the second year of the study. This training included how to praise and reinforce appropriate behaviors with their child and parent-child activities to foster positive relationships. Also a peer tutoring intervention was researched where students switched between tutoring and being a tutee two to four times per week practicing academic skills, but specifically working on positive social interactions. The treatment group saw a significant decrease in the negative behaviors of aggression, out-of-seat, and negative verbal communication over the two years. A comparison group that did not receive intervention showed an increase of the same negative

behaviors over time. In the Kamps et al. study there were many components to the social skills intervention. The researchers believe the social skills intervention was significantly effective because of the reinforcement provided to the students for generalizing the behaviors.

Kamps et al. (2000) showed that when social skills are directly taught, as well as reinforced over time, an increase in positive interactions between peers and a decrease in disruptive behavior will occur. This study shows it takes more than simply teaching the skills for social skill training to be effective. Bullis et al. (2001) supports social skill instruction as a component of a behavioral intervention, rather than the sole intervention. Social skill instruction has shown effects of increasing positive interactions and decreasing antisocial behaviors, and as such should be used as a building block for positive behavior support in the classroom. However, due to the limited effect social skills training has on improving behavior, this intervention should be used in conjunction with other behavioral management strategies in order to create an effective behavioral intervention.

Children must acquire several prerequisite social and academic related behaviors prior to academic learning. For example, sitting in a chair for a sustained period of time, attending to academic instruction, and compliance are skills necessary for academic learning. To teach these skills when they are not learned incidentally, there must be a behavior management system in place. Without the prerequisite skills mentioned above, academic instruction would be less effective. Teachers need behavior management systems they can implement in their own classroom to improve behavior and decrease disruptive behavior. Given Wehby's (2003) finding of the minimal amount of time students with EBD actually receive academic instruction (30% of a school day), this time needs to be maximized as much as possible. One way to increase this time is the use of a group contingency.

## **Group Contingencies**

Group-contingencies are behavior management systems in which rewards are earned as a group or in groups. Stage and Quiroz (1997) conducted a meta-analysis of behavioral interventions used to decrease disruptive behavior. From their analysis group contingencies ranked the most effective intervention on average across studies. Research supports the effectiveness of group-contingencies to decrease disruptive behavior and increase on-task behavior (Heering & Wilder, 2006; Wright & McCurdy, 2011). In Heering and Wilder's study (2006) the use of a group contingency increased on-task behavior from a baseline rate of 35%-50% to above 80% in 3<sup>rd</sup> and 4<sup>th</sup> grade classrooms.

Group contingencies have not only helped classrooms as a whole, but also individual students. In Ling, Hawkins, and Weber's (2011) study, they measured the effects of a group contingency on a first grade student considered at risk for EBD. The target student's on-task behavior ranged from 45%-73% of the time without intervention. When the group contingency intervention was implemented the target student's on-task behavior increased to an average of 86.70%. Ling et al. recognized the impact this intervention had on the student's behavior, however they were not certain these improvements carried over to the student's academic performance. They stated more research needs to be done to understand the impact of group contingencies on the academic achievement of students with or at risk of developing EBD.

### **Class Wide Function-Related Intervention Teams**

One particular form of group contingency, known as Class Wide Function-Related Intervention Team (CW-FIT), has been studied and shows optimal results for students with or at risk for EBD. CW-FIT is a group-contingency behavior intervention program used to increase students' on-task behavior and decrease disruptive behavior (Wills et al., 2009). It incorporates

effective behavior strategies to help the class as whole and to help individual students who may display problem behaviors. Under CW-FIT students are taught specific rules and earn rewards as a group for following the rules. CW-FIT incorporates social skills training, group contingency practices, and behavioral praise.

There is strong evidence to support the effectiveness of CW-FIT in classrooms. Published studies indicate that CW-FIT has been tested in over 40 classrooms with over 800 students in multiple classrooms (Kamps et al., 2011; Wills et al., 2009). In Kamps et al. (2011) study participants were from a low socioeconomic area, with most students receiving free or reduced lunch. The students were also very culturally diverse with 90% in the minority and 62% English Language Learners. Therefore, CW-FIT was administered in a diverse and high-risk population. In each of the classrooms the CW-FIT intervention showed results of increased on-task behavior, decreased disruptive behavior, and an increase of teacher attention to appropriate behaviors (Kamps et al., 2011; Wills et al., 2009). Target students who were at risk for behavior disorders were identified in these studies by screening procedures. They too showed positive results of decrease in disruptive behavior and increase of on-task behavior for all target students (Kamps et al., 2011).

In a recent study, Kamps et al. (2015) conducted a randomized trial of CW-FIT with seventeen elementary schools over a four-year time period. Results showed classrooms that used CW-FIT had an increase of on-task behavior increasing from base-line rates of 52% to 83% during the intervention phase. In the comparison group, on-task behavior had little change with a baseline rate of 50% to 56% during the withheld intervention phase. The study also showed similar changes in praise and reprimands. The CW-FIT classroom teachers increased their praise from 4 to 40 during observation, while the comparison teachers showed little change with an



increase from 4.46 to 4.62. CW-FIT classroom teachers decreased their reprimands from 7.48 to 4.45, while the comparison teachers increased their reprimands from 8.42 during baseline to 9.49 in the second phase. This results support and provide strong evidence of the effectiveness of the CW-FIT behavioral management system in a general education classroom.

From these studies, there is evidence to support the use of group contingencies with children with EBD, particularly the CW-FIT model, to increase on-task behavior and decrease disruptive behaviors. However, these studies were conducted in general education classroom setting rather than small-group settings. The studies also did not measure the impact a group contingency intervention had on the student's academic outcomes. Additionally, these studies did not measure the effects of varied opportunities to respond which may affect the effectiveness of the intervention.

### **Opportunities to Respond**

One of the evidence-based practices identified by researchers and professionals as an effective practice for teachers to use in their classrooms, is increased opportunities to respond (OTR). OTR refers to the amount of chances students individually or as a group are given to respond to questions as given by the teacher. Studies have demonstrated a high correlation between high OTR and increased on-task behavior and decreased disruptive behavior for students (Carnine, 1976; Conroy et al., 2009). A student engaged in the instruction is less likely to engage in disruptive behavior. The Council for Exceptional Children (CEC) identifies OTR as an effective teaching practice for special educators (1987). The CEC encourages teachers to have four to six OTR's per minute during whole group instruction and eight to twelve OTR's during independent practice to increase on-task behavior and increase the quality of learning. There are many ways to increase a student's OTR. Lewis et al. (2004) suggests using choral

responding, response cards, and verbal and written responses to increase OTR. Although increasing OTRs is identified as an effective teaching strategy for children with disabilities there is minimal research to show OTRs impact on the academic success of children with EBD.

Some researchers have looked at how increasing OTR affects on-task behavior and the academic behavior of students with EBD or those who are at risk of having EBD. These studies had similar results. Carnine performed a study with two students at risk for EBD that showed high-rates of off-task behavior as well as high rates of disruptive behavior (1976). Increasing OTR resulted in high rates of on-task behavior and lower rates of off-task behaviors. Carnine also found that increased OTR resulted in increased correct responses, going from a baseline rate of 41% to 85%.

In a similar study, West and Sloane (1986) examined the relationship between slow and fast presentation of prompts with five students with EBD. High rates of OTR showed lower rates of disruptive behavior. They also showed slow-paced instruction elicited 0.9 correct responses per minute, while fast-paced instruction elicited 2.4 correct responses per minute for students with EBD. Skinner and Shapiro (1989) demonstrated high rates of OTR led to increased words read correctly and a decrease of words read incorrectly. Each of these studies showed that increase of OTR produces increased on-task behavior and increased academic success of students with EBD. However, these studies were done with a minimal sample size and were conducted many years ago. Sutherland, Alder, and Gunter (2003) used these past studies to design a more recent study.

Sutherland et al. (2003) studied the effects of OTR on correct academic responses by students and its' effects on disruptive behavior. They performed their study with 9 students identified as having EBD. For the intervention the observer gave feedback to the teacher on the

teacher's OTR per minute rate and set goals with the teacher to increase the amount of OTRs. During baseline phases the teacher had an OTR rate of 1.68 per minute. With the use of the intervention, rates increased to 3.52. Sutherland et al. found that when OTR was increased it resulted in increase in teacher praise, increase of correct responses from the students, decrease in disruptive behavior, and higher percentage of on-task intervals. In summary, "increased effective teaching practices lead to more appropriate classroom behavior of students with EBD" (p. 243).

Research supports the correlation between increased OTR and increased on-task behavior as well as increased academic success. For this reason, it is essential that OTRs be measured while using a behavioral management system such as CW-FIT. Without high OTRs, CW-FIT or any behavioral management system could be ineffective.

### **Opportunities to Respond and Praise**

There is a relationship between the effective practice of OTR and another effective teaching practice known as praise. In the Sutherland, Wehby, and Yoder study (2002), they focused on the effects of OTR on praise rates of teachers. In their research they found a correlation between high OTR, academic talk, and praise. Increased OTR will result in increase in many other evidence-based practices such as praise, error correction, and feedback. The more a student responds the more a teacher has the opportunity to give feedback. Students are able to gauge their own learning based on this feedback.

Praise is a teaching strategy in which the teacher verbally or physically praises the appropriate academic responses or behavior of students. Several studies have shown that high rates of praise in a classroom result in the increase of on-task behavior and decrease in disruptive

behavior of the students (Alber, Heward, & Hippler, 1999; Gunter & Coutinho, 1997; Sutherland, 2000).

Stormont, Smith, and Lewis (2007) conducted a study with three teachers in Head Start classrooms. In the study, each teacher showed low rates of praise and higher rates of reprimands in the baseline phases. Teachers then participated in two trainings on effective teaching practices to use in the classroom including specific praise. With this simple intervention, all teachers showed an increase in praise rates. However, reprimand rates stayed relatively the same as baseline rates. The change in praise rates significantly decreased the rate of problem behavior. Problem behavior ranged from 0.5-2 per minute during baseline and decreased to 0.2-0.6 per minute after the implementation of the intervention. This study shows that the use of reprimands with little praise creates high incidences of problem behavior in comparison to high praise with the same amount of reprimands. Praise decreases problem behavior even when reprimands are used. High rates of praise allow teachers to effectively manage the behavior of students with EBD and create an optimal positive learning environment at which reprimands alone cannot.

West and Sloane (1986) conducted a study to examine the effects of slow/fast OTR's and low/high praise with five EBD students in a small group setting in reading, math, writing, and spelling. The teacher on average gave three OTRs per minute during the fast condition and 1 OTR per minute during the slow condition. The teacher was signaled with a preprogrammed tone from a cassette tape to give points/praise every minute in the high condition and every 4 minutes in the low condition. The results of this study showed that fast rates of OTR resulted in a decrease in the frequency of disruptive behavior. As a whole, the students exhibited disruptive behavior 80% of the time during the slow condition of OTRs and only 50% of the time during the fast condition. Interestingly the praise/point delivery showed little to no change in the slow

and fast condition. The authors attribute this to many factors including the point system had been used previous to the study and the change in behavior may have already reached its maximum before the study began. The authors also measured the effects of these conditions on correct responses from the students during sessions. They found no clear difference between conditions. From this study, one can conclude that high OTRs still prove to be effective to decrease disruptive behavior, but may question the importance or significance of praise. Another study (Wright & McCurdy, 2011) will show that without praise interventions may prove to be ineffective or offer little to no change in behavior.

If praise is not used frequently in the classroom, even the most effective strategies will not work as they should. This can be seen in the Wright and McCurdy study (2011). They compared two forms of group contingency known as the Good Behavior Game (GBG) and the Caught You Being Good Game. In the GBG students received points when the timer went off and they were misbehaving. If as a class they stayed below a set amount of points, the class would earn the reward. The Caught You Being Good Game used the opposite format. When the timer went off, the class was awarded points if they were following the rules. Based on the evidence given before on the effects of praise versus reprimands it would be expected that the Caught You Being Good Game would have increased on-task behavior better than the Good Behavior game. In the study, both group contingencies showed similar effects in increasing on-task behavior and there did not seem to be much of a difference between the two forms. However, the researchers did not calculate the praise rates of the teachers. Wright and McCurdy attribute the data being essentially the same because the teachers were not using praise as frequently as needed with the Caught You Being Good Game.

Lewis et al. (2004, p. 250) summarized: “Desired behaviors are simply less likely to occur in settings in which reinforcement is either nonexistent or too infrequent to be effective.” Students with EBD need the behavioral and academic praise to reinforce their behavior. From this research it can be assumed that interventions such as CW-FIT and increased OTR will be more effective and possibly only effective if praise is used in conjunction with the interventions.

### **Conclusion**

Students with EBD need behavioral and academic interventions in order to be successful in the classroom and ultimately improve their long-term outcomes. Research supports the use of practices including CW-FIT, increased OTR, and praise. Although there is evidence to support these practices individually, there are minimal studies that measure all three practices in conjunction. This study looks to understand the relationship between CW-FIT, increased OTR, and praise, specifically understanding what amount of OTRs are necessary to ensure the effectiveness of CW-FIT as well as improve the academic achievement of students with EBD.

## References

- Alber, S. R., Heward, W. L., & Hippler, B. J. (1999). Teaching middle school students with learning disabilities to recruit positive teacher attention. *Exceptional Children, 65*(2), 253-270. doi: 10.1177/001440299906500209
- Bullis, M., Walker, H. M., & Sprague, J. R. (2001). A promise unfulfilled: Social skills training with at-risk and antisocial children and youth. *Exceptionality, 9*(1-2), 67-90. doi: 10.1080/09362835.2001.9666992
- Campbell, S. B. (1995). Behavior problems in preschool children: A review of recent research *Journal of child Psychology and Psychiatry, 36*(1), 113-149.
- Carnine, D. W. (1976). Effects of two teacher-presentation rates on off-task behavior, answering correctly, and participation. *Journal of Applied Behavior Analysis, 9*(2), 199-206. doi: 10.1111/j.1469-7610.1995.tb01657.x
- Carnine, D. W. (1976). Effects of two teacher-presentation rates on off-task behavior, answering correctly, and participation. *Journal of Applied Behavior Analysis, 9*(2), 199-206. doi: 10.1901/jaba.1976.9-199
- Carr, E. G., Taylor, J. C., & Robinson, S. (1991). The effects of severe behavior problems in children on the teaching behavior of adults. *Journal of Applied Behavior Analysis, 24*(3), 523-535. doi: 10.1901/jaba.1991.24-523
- Chen, X., Rubin, K. H., & Li, D. (1997). Relation between academic achievement and social adjustment: Evidence from Chinese children. *Developmental psychology, 33*(3), 518-525. doi: 10.1037/0012-1649.33.3.518
- Conroy, M., Sutherland, K., Haydon, T., Stormont, M., & Harmon, J. (2009). Preventing and ameliorating young children's chronic problem behaviors: An ecological classroom

- based approach. *Psychology in the Schools*, 46(1), 3-17. doi:10.1002/pits.20350
- Council for Exceptional Children. (1987). *Academy for effective instruction: Working with mildly handicapped students*. Reston, VA: Author.
- Gunter, P. L., & Coutinho, M. J. (1997). Negative reinforcement in classrooms: What we're beginning to learn. *Teacher Education and Special Education: The Journal of the Teacher Education Division of the Council for Exceptional Children*, 20(3), 249-264. doi: 10.1177/088840649702000306
- Heering, P. W., & Wilder, D. A. (2006). The use of dependent group contingencies to increase on-task behavior in two general education classrooms. *Education & Treatment of Children (West Virginia University Press)*, 29(3), 459-468.
- Jorm, A. F., Share, D. L., Matthews, R., & Maclean, R. (1986). Behaviour problems in specific reading retarded and general reading backward children: A longitudinal study. *Journal of Child Psychology and Psychiatry*, 27(1), 33-43. doi: 10.1111/j.1469-7610.1986.tb00619.x
- Kamps, D., Tankersley, M., & Ellis, C. (2000). Social skills interventions for young at-risk students: A 2-year follow-up study. *Behavioral Disorders*, 25(4), 310. Retrieved from <http://search.proquest.com/docview/219675314?accountid=4488>
- Kamps, D., Wills, H., Dawson-Bannister, H., Heitzman-Powell, L., Kottwitz, E., Hansen, B., & Fleming, K. (2015). Class-wide function-related intervention teams "CW-FIT" efficacy trial outcomes. *Journal of Positive Behavior Interventions*. Advance online publication. doi: 10.1177/1098300714565244
- Kamps, D., Wills, H. P., Heitzman-Powell, L., Laylin, J., Szoke, C., Petrillo, T., & Culey, A.



- (2011). Class-wide function-related intervention teams: Effects of group contingency programs in urban classrooms. *Journal of Positive Behavior Interventions*, 13(3), 154-167. doi: 10.1177/1098300711398935
- Levy, S., & Chard, D. J. (2001). Research on reading instruction for students with emotional and behavioural disorders. *International Journal of Disability, Development and Education*, 48(4), 429-444. doi: 10.1080/10349120120094301
- Lewis, T. J., Hudson, S., Richter, M., & Johnson, N. (2004). Scientifically supported practices in emotional and behavioral disorders: A proposed approach and brief review of current practices. *Behavioral Disorders*, 29(3), 247-259.
- Ling, S., Hawkins, R. O., & Weber, D. (2011). Effects of a classwide interdependent group contingency designed to improve the behavior of an at-risk student. *Journal of Behavioral Education*, 20(2), 103-116. doi: 10.1007/s10864-011-9125-x
- Masten, A. S., Coatsworth, J. D., Neemann, J., Gest, S. D., Tellegen, A., & Garmezy, N. (1995). The structure and coherence of competence from childhood through adolescence. *Child development*, 66(6), 1635-1659. doi: 10.1111/j.1467-8624.1995.tb00956.x
- McGee, R., Williams, S., Share, D. L., Anderson, J., & Silva, P. A. (1986). The relationship between specific reading retardation, general reading backwardness and behavioural problems in a large sample of Dunedin boys: A longitudinal study from five to eleven years. *Journal of Child Psychology and Psychiatry*, 27(5), 597-610. doi: 10.1111/j.1469-7610.1986.tb00185.x
- Newman, L., Wagner, M., Knokey, A. M., Marder, C., Nagle, K., Shaver, D., & Wei, X. (2011). The post-high school outcomes of young adults with disabilities up to 8 years after high school: A report from the national longitudinal transition study-2 (NLTS2). NCSER

- 2011-3005. *National Center for Special Education Research*. Retrieved from <http://files.eric.ed.gov/fulltext/ED524044.pdf>
- Quinn, M. M., Kavale, K. A., Mathur, S. R., Rutherford, R. B., & Forness, S. R. (1999). A meta analysis of social skill interventions for students with emotional or behavioral disorders. *Journal of Emotional and Behavioral Disorders*, 7(1), 54-64. doi: 10.1177/106342669900700106
- Reschly, A. L., & Christenson, S. L. (2006). Prediction of dropout among students with mild disabilities A case for the inclusion of student engagement variables. *Remedial and Special Education*, 27(5), 276-292. doi: 10.1177/07419325060270050301
- Shonkoff, J. P., & Phillips, D. A. (Eds.). (2000). *From neurons to neighborhoods: The science of early childhood development*. Washington, D.C.: National Academy Press.
- Shores, R. E., & Wehby, J. H. (1999). Analyzing the classroom social behavior of students with EBD. *Journal of Emotional and Behavioral Disorders*, 7(4), 194-199. doi: 10.1177/106342669900700401
- Skinner, C. H., & Shapiro, E. S. (1989). A comparison of taped-words and drill interventions on reading fluency in adolescents with behavior disorders. *Education & Treatment of Children*, 12(2), 123-133. doi: 10.1016/0022-4405(92)90024-Y
- Stage, S. A., & Quiroz, D. R. (1997). A meta-analysis of interventions to decrease disruptive classroom behavior in public education settings. *School Psychology Review*, 26(3), 333-368.
- Stormont, M. A., Smith, S. C., & Lewis, T. J. (2007). Teacher implementation of precorrection

- and praise statements in Head Start classrooms as a component of a program-wide system of positive behavior support. *Journal of Behavioral Education*, 16(3), 280-290. doi: 10.1007/s10864-007-9040-3
- Sutherland, K. S. (2000). Promoting positive interactions between teachers and students with emotional/behavioral disorders. *Preventing School Failure: Alternative Education for Children and Youth*, 44(3), 110-115.
- Sutherland, K. S., Alder, N., & Gunter, P. L. (2003). The effect of varying rates of opportunities to respond to academic requests on the classroom behavior of students with EBD. *Journal of Emotional and Behavioral Disorders*, 11(4), 239-248.
- Sutherland, K. S., Lewis-Palmer, T., Stichter, J., & Morgan, P. L. (2008). Examining the influence of teacher behavior and classroom context on the behavioral and academic outcomes for students with emotional or behavioral disorders. *The Journal of Special Education*, 41(4), 223-233. doi: 10.1177/0022466907310372
- Sutherland, K. S., & Wehby, J. H. (2001). Exploring the relationship between increased opportunities to respond to academic requests and the academic and behavioral outcomes of students with EBD. *Remedial and Special Education*, 22(2), 113. Retrieved from <http://search.proquest.com/docview/236288609?accountid=4488>
- Sutherland, K. S., Wehby, J. H., & Yoder, P. J. (2002). Examination of the relationship between teacher praise and opportunities for students with EBD to respond to academic requests. *Journal of Emotional and Behavioral Disorders*, 10(1), 5-13. doi: 10.1177/074193250102200205
- U.S. Department of Education. (2008). *30<sup>th</sup> annual report to congress on the implementation of*

- the individuals with disabilities education act, 2008*. Washington, DC: U.S. Department of Education, Office of Special Education Programs.
- Utah State Board of Education. (2013). Special education rules. Salt Lake City, UT: Utah State Office of Education. Retrieved from <http://schools.utah.gov/sars/Laws/Rules.aspx>
- Wagner, Mary. (2014). Longitudinal outcomes and post-high school status of students with emotional or behavioral disorders. New York, NY: The Guilford Press.
- Wehby, J.H. (2003, February). *Promoting academic success as an incompatible behavior*. Paper presented at the Council for Children with Behavioral Disorders International Forum, Las Vegas, NV.
- Wehby, J. H., Lane, K. L., & Falk, K. B. (2003). Academic instruction for students with emotional and behavioral disorders. *Journal of Emotional and Behavioral Disorders*, 11(4), 194-197. doi: 10.1177/10634266030110040101
- West, R. P., & Sloane, H. N. (1986). Teacher presentation rate and point delivery rate effects on classroom disruption, performance accuracy, and response rate. *Behavior Modification*, 10(3), 267-286. doi: 10.1177/01454455860103001
- Wilhite, S. (2010). Effects of the why try social skills program on students with emotional and behavioral disorders at an alternative campus. (Doctoral dissertation, University of North Texas). Retrieved from <http://gradworks.umi.com/34/52/3452001.html>
- Wills, H. P., Kamps, D., Hansen, B., Conklin, C., Bellinger, S., Neaderhiser, J., & Nsubuga, B. (2009). The classwide function-based intervention team program. *Preventing School Failure: Alternative Education for Children and Youth*, 54(3), 164-171. doi: 10.1080/10459880903496230
- Wright, R. A., & McCurdy, B. L. (2011). Classwide positive behavior support and group

contingencies: Examining a positive variation of the good behavior game. *Journal of Positive Behavior Interventions*, 14(3), 173-180. doi: 10.1177/1098300711421008

Wood, S. J., & Cronin, M. E. (1999). Students with emotional/behavioral disorders and transition planning: What the follow-up studies tell us. *Psychology in the Schools*, 36(4), 327-345. doi: 10.1002/(SICI)1520-6807(199907)36:4<327::AID-PITS6>3.0.CO;2-P

## APPENDIX B: Procedural Fidelity Checklist

 Primary Sheet Reliability Sheet**Class-wide Function-related Intervention Teams (CW-FIT)  
Procedural Fidelity Checklist**

School: \_\_\_\_\_

Teacher: \_\_\_\_\_

Observer Name: \_\_\_\_\_

Observer 2/reliability: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Condition:  Control  Experimental  
 Observation Condition:  Baseline  Intervention  Training  Comparison  Reversal  
 Observation Type:  On-Task  MOOSES  General  Other

MOOSES File(s): \_\_\_\_\_

Self-Managers: \_\_\_\_\_

Help Card Use: \_\_\_\_\_

CW-FIT Procedures	Observed	Quality
1. Skills are prominently displayed on posters.	Y N	1 2 3
2. Precorrects on skills at beginning of session.	Y N	1 2 3
3. Corrections are instructive and refer to skills.	Y N N/A	1 2 3
4. Team point chart displayed.	Y N	1 2 3
5. Daily point goal posted.	Y N	1 2 3
6. Self-management charts given to individuals.	Y N N/A	
6a. Teacher prompts SM students to give points/HC students to use HC.	Y N N/A	1 2 3
6b. SM students give themselves points/Students use HC.	Y N N/A	1 2 3
6c. Teacher praises SM/HC students (at least 2 times).	Y N N/A	1 2 3
6d. Teacher supports SM/HC (proximity, checks for accuracy).	Y N N/A	1 2 3
7. Timer used & set at appropriate intervals.	Y N	1 2 3
8. Points awarded to teams for use of skills.	Y N	1 2 3
9. Points tallied for teams.	Y N	1 2 3
10. Winners immediately rewarded.	Y N	
11. Winners reward announced if delayed.	Y N N/A	1 2 3
12. Frequent praise (points) given.	Y N	1 2 3
13. Behavior-specific praise given.	Y N	1 2 3
14. Praise (points) to reprimand ratio is approximately 4:1.	Y N	1 2 3

**Please subtract out any items marked N/A when computing your totals.**

Total Fidelity Score \_\_\_\_\_

Total Quality Score \_\_\_\_\_

Total Score Possible \_\_\_\_\_

Total Score Possible \_\_\_\_\_

Total Score divided by Total Possible = % yes \_\_\_\_\_

Average \_\_\_\_\_

### Classroom Management –student behavior definitions

\* Refer to percent scale on the fidelity checklist.

1. Level of compliance during academic time.  
Record the percentage of students that complied with teacher instructions throughout the session.
2. Students follow rules appropriate to settings.  
Percentage of students that followed classroom rules as defined by class rules poster or school expectations. Also includes demonstrating appropriate behavior for particular activities (i.e., small group/pair-work vs. teacher leading large group activities).
3. Transitions are short with only minor disruptions.  
Percentage of students that transitioned between activities, locations, subjects, or materials smoothly and without major disruptions.
4. Students are focused and on-task.  
Percentage of students that remained focused on and engaged in the activity or lesson.
5. Level of lesson structure  
Quality of lesson structure: organized clear directions, well organized lessons, smooth operation of lessons, clear schedule of activities, few disruptions, and sufficient work to keep students busy  
 1= Very low—much down time, lessons unclear, chaotic  
 2= Moderately low—multiple occasions of down time or poorly structured lessons and/or disruptions  
 3= Average—generally structured with some minor down time on 2+ occasions and/or occasional minor disruptions  
 4= Moderately high—well structured, few disruptions
6. Teacher ignores minor inappropriate behaviors.  
Percentage of time that the teacher ignored minor inappropriate behavior. Minor inappropriate behavior is defined as behavior that is not harmful to the student or anyone else and is not extremely disruptive or disrespectful. Hitting, kicking, or cursing at the teacher would not be considered minor inappropriate behavior and probably should not be ignored.
7. Frequent & specific praise given.  
Percentage of time that students are being praised for exhibiting good behavior. When praise is given, the teacher should explicitly say *what* the students were doing well. This can be done on an individual or group basis (i.e. “Sally, nice job raising your hand to get my attention!” or “Class, I am really proud of how you have been listening respectfully.”). In addition, points awarded count toward the

frequency of praise. If the points are specific (“team 1 gets a point because they were sitting in their seats”) then that counts towards the specificity criteria. The teacher should give at least 3 specific verbal praises throughout the lesson and/or accompany points with specific verbal praise every 4<sup>th</sup> time the timer goes off.

8. Praise to reprimand ratio approx 4:1.

Percentage of the teacher’s overall student interactions within the session included approximately 4 positive interactions (praise, positive comments, physical rewards, and **points awarded**) to every 1 negative interaction (reprimands, negative comments, removal of rewards). This is measured with respect to the entire class, not just individual students.

1= Very Low—More reprimands than praises.

2= Moderately Low—Equal number of reprimands and praises.

3= Average—Twice as many praises as reprimands

4= Moderately High—Four times (or more) as many praises as reprimands.

9. Three to five clearly and positively stated classroom rules/expectations are visibly posted.

Each poster is accessible to students (i.e., written in clear language and has illustrations that all students can access). There are between three and five stated rules/expectations Each rule has 3-5 actionable/observable steps that students can reference when demonstrating that expectation/rule.

\*Posted lists of character traits, expectations without steps to meet those rules, and posters with lists of more than 6 rules/expectations are all non-examples.

10. System of rewards observed.

At least once during the session, the teacher rewards some students with tickets, bracelets, points, tallies, etc... Color cards do not count unless they are moved to the positive side.



## Quality Rating Definitions for CW-FIT Procedural Fidelity Checklist

*In order to get a 1, 2 or 3 Quality Rating the Y must be circled*

*1=Implemented with partial fidelity, 2=Implemented with good fidelity, 3=Implemented with full fidelity*

1. Skills are prominently displayed on posters
  - 1= Posters are up but are visible to less than 50% of the students
  - 2= Posters are up but are visible to only 50-90% of the students
  - 3= Posters are up and appear visible to all of the students
  
2. Precorrects on skills at beginning of session
  - 1= Teacher minimally reviews skills
  - 2= Teacher reviews some skills, but not all
  - 3= Teacher reviews all skills (can be brief)
  
3. Corrections are instructive and refer to skills
  - 1= Teacher refers to skills less than 50% of the time while giving corrections
  - 2= Teacher refers to skills between 50-80% of the time while giving corrections
  - 3= Teacher refers to skills during at least 80% of the time and has teacher led discussion for all students
  
4. Team Point chart is displayed
  - 1= Point chart is posted but visible to less than 50% of the students
  - 2= Point chart is posted but visible to 50-90% of the students
  - 3= Point chart is posted and visible to 90-100% of the students, 90-100% of the time
  
5. Daily Point Goal is posted
  - 1= Point goal is posted but visible to less than 50% of the students
  - 2= Point goal is posted but visible to 50-90% of the class
  - 3= Point goal is posted and visible to 90-100% students, 90-100% of the time
  
6. Self-Management charts/Help cards given to individuals  
*Quality rating not applicable to this item*
  - 6a. Teacher prompts SM students to give themselves points/HC students to use cards.
    - 1= Teacher prompts SM students/HC only once
    - 2= Teacher prompts SM/HC students 1-2 times and students use SM/HC inconsistently
    - 3= Teacher prompts SM/HC students 3 or more times and/or observes that students use SM/HC consistently
  
  - 6b. SM students give themselves points/HC students use their help cards
    - 1= SM students give themselves points less than 50% of the time/HC students use their help cards less than 50% of the time
    - 2= SM students give themselves points between 50-90% of the time/HC students use their help cards between 50-90% of the time
    - 3= SM students give themselves points 90-100% of the time/HC students use their cards 90-100% of the time
  
  - 6c. Teacher praises SM/HC students
    - 1= Teacher praises the group of SM/HC students once during session OR praises some of the SM/HC students individually
    - 2= Teacher praises the group of SM/HC students two times during session OR praises each of the SM/HC students once during the session
    - 3= Teacher praises SM/HC students three or more times during session OR praises each of the SM/HC students two or more times during the session

6d. Teacher supports SM/HC students

- 1= Teacher uses proximity to check use of the system and accuracy once during session
- 2= Teacher uses proximity to check use of the system and accuracy twice during session OR checks all SM/HC students once during session
- 3= Teacher uses proximity to check use of the system and accuracy three or more times during session OR checks all SM/HC students two or more times during session

7. Timer Used and set at appropriate intervals

- 1= Teacher uses timer but has intervals too spread apart and timer is inaccessible
- 2= Teacher uses timer most of the time with good fidelity
- 3= Teacher has timer set at frequent, appropriate intervals and the timer is easily accessible

8. Points awarded to teams for use of skills

- 1= Points are awarded, but skills are not referenced
- 2= Points are awarded adequately across all groups and skills are referenced some of the time
- 3= Points are awarded to teams and skills are referenced and reinforced while awarding points

9. Points tallied for teams

- 1= Points are tallied but with no discussion
- 2= Points are tallied with minimal discussion
- 3= Points are tallied with enthusiasm and discussion

10. Winners Immediately Rewarded

*Quality rating not applicable to this item*

11. Winners reward announced if delayed

- 1= Reward is announced but no detail
- 2= Reward is announced with some detail
- 3= Reward is announced with significant detail of time/place

12. Frequent praise (points) given

- 1= Teacher gives points without pairing praise
- 2= Teacher gives points paired with praise some of the time
- 3= Teacher gives points paired with praise most of the time

13. Behavior-specific praise given

- 1= Teacher praise is given to the class or individual students 2 times during the observation
- 2= Teacher praise is given to the class or individual students 3-4 times during the observation
- 3= Teacher praise is given to the class or individual students at least 5 times during the observation

14. Praise (points) to reprimand ratio is approximately 4:1

- 1= Teacher praise to reprimand appears to be a 4:1 ratio but not behavior specific
- 2= Teacher praise to reprimand ratio is 4:1 and behavior specific some of the time
- 3= Teacher praise to reprimand ratio was greater than 4:1 and behavior specific most of the time

**Opportunities to Respond Procedural Fidelity Checklist**

Date: \_\_\_\_\_

Phase: \_\_\_\_\_

MotivAider Time set at increments: \_\_\_\_\_

Expected OTRs in 15 minute session: \_\_\_\_\_

## Observation Guidelines & Code Definitions for MOOSES CW-FIT

### MOOSES Observation Guidelines

- Make sure you have a supply of procedural fidelity checklists to be completed at the end of the observation session, *not* for each child observed. That is, one fidelity per teacher.
- Make sure you have a copy of the MOOSES definitions at observations.
- Be at least 5 minutes early for your observation.
- Be dressed appropriately for school setting.
- Wear something comfortable, (i.e., slacks) because you may be standing, sitting in small chairs, or possibly on the floor.
- At an appropriate time (i.e., before the lesson, during transition) quietly ask the teacher to identify the target student/child (TC) *without* actually calling attention to the TC.
- Sit in front, or to the side of the target student so you can see hands, feet, and face but remain inconspicuous.
- When observing, do not stare at the TC. Try to look around the room at others, all the while glancing back at the target student.
- MOOSES sessions should last 15 minutes per child. This is 900 seconds. For it to be a valid file it must be *at least* 750 seconds long.
- When/if the TC leaves the room, press “Stop” and wait for the student to return. When they do return then resume observation by hitting “Start.” If student does not return after 5 minutes it is appropriate to ask the teacher if they will be returning.
- Always keep a copy of all filenames for all target students and peers in the study with you. This is in the event that if one target student is absent you can pick up another target or peer in the class. Otherwise, you can go to a different class to attempt to observe another available student.
- During reliability observations, the primary observer will count out, “1-2-3, start,” so that both observers can hit the “Start” button at the same time and thus begin coding at the exact time. During this time, keep conversation at an absolute minimum.
- Refrain from using your cell phone during any observation. *Turn it off or put it on silent mode.*

### MOOSES CODE DEFINITIONS

**FIX(x1):** A single “FIX” code indicates an observer coding error. Observers will select the FIX key to replace the previous coding error entered on the MOOSES. After selecting FIX a single time input the correct code to replace the previous code.

**Examples of FIX(x1):**

- A group in which the Target Child (TC) is a member receives a “rep\_gr” (group reprimand). Observer hits the “rep\_in” (individual reprimand) button by mistake. Observer corrects error by selecting FIX(x1) and then taps “rep\_gr”.

**FIX(x2):** A double “FIX” code indicates an observer coding error. Observers will select the FIX key twice to delete a previous coding error entered on the MOOSES.

**Example of FIX(x2):**

- The TC is engaging in disruptive behavior (bd). The teacher looks toward the target child and begins to talk. Observer taps the “rep\_in” key for individual reprimand, but then realizes that the teacher is NOT issuing a reprimand. Observer taps FIX(x2).

**FIX(x):** Multiple “FIX” codes in a row indicate an observer coding error. Observers will select the FIX key as many times as necessary to indicate the change in time of the previous code. Select the FIX key for the number of seconds that reflects the difference from the previous code.

**Example of FIX(x):**

- The observer realizes the TC was reprimanded by the teacher, three seconds after the reprimand occurred. Observer corrects error by tapping FIX(x3).
- The teacher delivers a subtle praise to the class. Four seconds later, the observer decides the group was praised. Observer taps FIX(x4).

**Point** (frequency code): Select the Point button each time the TC or TC’s group is awarded a point during CW-FIT.

### TEACHER CODES

**teacher/othtch** – TEACHER or OTHER TEACHER INSTRUCTION (duration code):

**Example of teacher:** Code “teacher” whenever the TC is working with the primary/lead classroom teacher.

**Example of othtch:** Switch from “teacher” to other teacher (othtch) whenever the TC switches from instruction provided by the primary classroom instructor to a one-on-one or small group instruction with a paraprofessional, instructional coach, or whenever the class is being led by a student teacher.

**Notes:**

- In special education rooms, different teachers, aides, or paraprofessionals tend to work with specific students for extended time periods. Code the primary person working with the TC as “teacher” and code “othtch” whenever the TC’s instruction is someone other than the primary/lead teacher.
- Do not observe when a substitute teacher is teaching the class. If possible, find a different class to observe in.
- Do not observe a class during any extraordinary events, e.g., special art projects, Halloween party, or during a full block of testing.

**OTR- OPPORTUNITIES TO RESPOND** (frequency code):

An instructional question or statement from the teacher to the TC (or to a group that includes TC), that seeks an academic response orally or publicly. If the teacher asks an academic/instructional question that may be answered by raising a hand (i.e., teacher asks, “students, raise your hand if you think that statement is true”), code OTR at the end of the question. Code OTR for every one of these opportunities given to the TC to respond. Statements intended to clarify the question, or rhetorical questions should not be coded. If students are asked to read text out loud while the teacher is pointing to the individual words (numbers problems, etc.) code that as a single OTR (except if it is a list of isolated words and the teacher points to each one; in that case, each isolated word is a separate OTR). If after five seconds the

student neglects to respond, code “No Response” UNLESS the student appears to be in process of or actions indicate response (e.g., student is looking through notes, calculating the answer, etc.), then code “response”.

**Examples:**

- “What is the capital of Tennessee?” Teacher points to TC for response (OTR).
- Teacher says, “Susan, could you please come to the board and work out this math problem?”(OTR).
- “Timmy? What is the capital of Tennessee? Remember that it starts with an ‘n’” (OTR).
- “Bobby (TC), will you please share your answer with the class?” (OTR).
- “How did you do on your personal goal in math today?” (pause) “Jimmy, how did you do on your personal goal today?” (1 OTR).
- Teacher shows flashcards to TC. (Each flashcard is asked separately; multiple OTRs).
- “Everyone please fill in the answer for #5.” (Teacher asks a question from content on the chalkboard, white board or overhead projector; OTR).

**Non-Examples:**

- “You need to sit down and get to work” (may be rep-in/gr depending upon context).
- “Finish the worksheet and then you can have free time” (ignore).
- Rhetorical questions (ignore).
- Teacher clarifications on questions asked (ignore).
- “Timmy, do you know the answer?” Timmy doesn’t respond or look up and there is a teacher pause followed by the teacher asking “Timmy?” (code original OTR only, not the prompt **unless** the full question is repeated).

**pr\_in/pr\_gr** – TEACHER PRAISE to TC individually or as part of a group (frequency code).

**Notes:**

- *Individual* praise is to the TC only.
- *Group* praise must be inclusive of the TC, and must be directed toward large or small groups that include the TC.
- Score praise for a verbal statement that indicates approval of behavior over and above an evaluation of adequacy or acknowledgement of a correct response to a question. This includes requests for children to give themselves a pat, high five, etc. Tone of voice may also be indicative of praise *provided that the content can be clearly heard*. Long and detailed praise statements count as one episode, unless at least 3 seconds pass between the end of one statement and the beginning of the next, *or when the content changes*.

**Examples:** (May be combined with expressive gestures)

- “Good work on keeping hands to self, Yvonne!” (pr\_in).
- “Billy, I like the way you did that sum!” (pr\_in).
- “Your handwriting is improving!” (pr\_in).
- “Everyone is sitting quietly, great!” (pr\_gr).
- “David, since you are sitting quietly; you may read first.” (pr\_in).
- “Thank you for raising your hand first!” (pr\_in).
- “I have such awesome listeners in class today! Thank you Anna for giving me your listening ears (pr\_gr and pr\_in).

- “Team 3 is doing a great job of following directions and reading their books as I asked; excellent job! I am very impressed by how well you are focusing and you’re doing it quietly too! Keep it up!” (Code as one pr\_gr).

**Non-examples:**

- Teacher says “Thank you” to TC as she collects an assignment (ignore and do not code).
- “That’s correct” (ignore and do not code).
- Teacher looks up from her desk and says, “Good job!” with no specific focus on TC or a group that includes TC (ignore and do not code—this is not context specific).
- “I’ve got Johnny’s paper” (ignore and do not code).
- “Right” (ignore and do not code).
- “Everyone is sitting quietly” (ignore and do not code).
- Teacher looks at TC and smiles (ignore and do not code).

**rep\_in/rep\_gr** –TEACHER REPRIMAND to TC individually or as part of a group (frequency code).

**Notes:**

- *Individual* reprimands are to TC only.
- *Group* reprimands must be directed toward large or small groups inclusive of the TC. It is **not** a reprimand directed toward an individual.
- Reprimands include verbal comments such as scolding, negative statements about behavior indicating disapproval with student’s social behavior, or comments used with the intent to stop the student from misbehaving. Redirection by the teacher and statements of negative consequences by the teacher are included in this category. Verbal content must be clearly distinguishable from a general comment to students. Tone will likely be stern or punitive, although reprimands can be delivered in a pleasant tone and sometimes sound like prompts or reminders. Threats should also be counted as reprimands. Code reprimand at the end of the first reprimand statement, and code them separately if at *least 3 seconds* pass between the end of one reprimand and the beginning of the next. Statements are coded as reprimands when they are intended to correct behavior as it is occurring or after it has occurred.

**Examples:**

- “Johnny, quit wasting time and get back to work” (rep\_in).
- “Start paying attention or your name is going on the board” (rep\_in).
- “Stop bothering Kim” (rep\_in).
- “I told you to sit down” (rep\_gr/rep\_in depending upon context).
- Teacher asks Jane to, “have a seat” when Jane gets out of her seat during independent seatwork” (rep\_in).
- “People are going to have to start bringing their pencils to school instead of taking them from me” (rep\_gr).
- “Are you awake?” (Student has eyes closed during lesson; code as rep\_in).
- Teacher takes pencil away from student who is playing with it and not following instructions” (rep\_in).
- “Your behavior at recess was inexcusable” (rep\_gr/rep\_in—context specific).
- “That’s 10 minutes off recess” (rep\_gr/rep\_in—context specific).
- “Go flip a card” (colored card system code as rep\_in)



- “If you keep talking, you’re going to lose your recess” (rep\_gr/rep\_in—context specific).
- “Group 1 (includes TC) wasn’t working so no point for them.” (rep\_gr).
- “Tom, if you don’t start working quietly you are going to lose recess.” (rep\_in)

**Non-examples:**

- “Try harder on your math worksheet; I know you can do better” (ignore do **not** code).
- Students come back from lunch and teacher asks them to “sit” (ignore do **not** code).
- “This is incorrect” (ignore do **not** code).
- “We’re getting ready for math. I want eyes and ears on me” (ignore do **not** code).
- Teacher looks at TC and raises his/her eyebrows” (ignore do **not** code).
- Teacher looks at TC and frowns” (ignore do **not** code).
- Teacher uses hand as a “stop/no more” gesture (ignore do **not** code).

## STUDENT BEHAVIOR

### Engagement/Disengagement

**Note the general rule:** *Is the TC doing what they are supposed to be doing?* Use a 5-second count to gauge when to switch from *actively engaged* to *passively engaged* or to *disengaged*. At the moment that the TC re-engages or moves from passively to actively engaged, switch the code back.

### **Act\_eng** – ACTIVELY ENGAGED (duration code):

Student is appropriately working on the assigned/approved activity. Use the 5-second rule to gauge when to switch between active engagement and passive engagement. Examples of active student engagement include words read orally, questions answered, and words written. As soon as the TC begins to respond, switch code to active responding. Signs of active engagement behavior include (a) responding to a question directed at student, (b) volunteering oral information to the lesson after raising hand, (c) providing an answer when teacher requests choral response, (d) making appropriate motor responses (writing, following rules of a game), (e) reading aloud, (f) reading silently with signs of scanning or page turning, (g) writing or solving problems during independent activity, (h) answering during small or large group academic talk, project, or discussion in upper grades, and (i) participation in centers/stations in younger grades.

**Examples:**

- TC is reading out loud with the class when directed to do so, or is quietly following along in the book (Act\_eng).
- TC goes to the teacher’s desk to ask a question and then returns to her seat (Act\_eng).
- TC looks out the window for less than 5 seconds and then returns to the task (Act\_eng).
- TC is writing on an assigned workbook page during independent activity (Act\_eng).

**Non-examples:**

- Teacher asks TC to watch as the teacher demonstrates how to complete the lesson (code as Pass\_eng if TC follows those directions).
- Teacher says, “Raise your hand if you know the answer.” TC fails to raise hand but is not engaging in off-task behavior (do *not* code as Act\_eng; code as Pass\_eng—see definition below).

### **Pass\_eng** – PASSIVELY ENGAGED (duration code):



Student is appropriately working on the assigned/approved activity. Use the 5-second rule to gauge when to switch between active engagement and passive engagement. Signs of this behavior include (a) quietly listening to teacher, (b) looking at or attending to the material and the task, (c) waiting appropriately for the teacher to begin or continue with instruction (staying quiet and staying in seat), and (d) watching teacher as he/she talks in front of the class.

**Examples:**

- TC puts head down on her desk for 4 seconds and then returns to watching teacher instruction (Pass\_eng).
- TC gets up to get a Kleenex and immediately returns to his seat (Pass\_eng).
- TC gets up to sharpen her pencil and returns to her work within 5 seconds (or is on the way back to her desk without dawdling Pass\_eng).
- TC is not engaging in choral reading with the class, but is listening to the reading (Pass\_eng).

**Non-examples:**

- The teacher gives a general request for information or an answer: TC does not answer nor raises his/her hand (**leave coded** as passive engagement unless child becomes disengaged).
- TC is reading a book (code this as Act\_eng).

**Diseng – DISENGAGED (duration code)**

Student is not participating in an approved/assigned activity. They are not attending to the material or task, making appropriate motor responses, asking for assistance in an acceptable manner, or waiting appropriately for the teacher to begin or continue with instruction. Only code after the student has not been attending to approved/assigned activity *for at least 5 seconds*.

**Examples:**

- TC has been asked by the teaching assistant to leave a teacher-led activity and work with her; transition takes more than 5 seconds (code as Diseng).
- TC gets up from seat and dawdles while washing hands for long period of time (out of seat without permission; code as Diseng).
- TC stares away from the teacher, student talking, or instructional materials for more than 5 seconds (Diseng).
- The teacher asks the students to stand up to stretch before an activity and the TC remains seated for more than 5 seconds (code as Diseng).
- TC has been out of the classroom, comes back into the classroom and takes more than 5 seconds to return to her desk (up without permission or is dawdling; code Down\_Time, and Diseng).
- TC gets out of seat, walks to pencil sharpener, sharpens pencil and walks around or dawdles instead of returning to seat within 5 seconds (Diseng).

**Non-examples:**

- TC is reading out loud with the class when directed to do so (Act\_eng).
- TC has been previously disengaged. The teacher asks the class to follow along in the book and engage in choral responding. The TC is not engaging in choral reading with the class, but begins looking at the page and following along with his finger (OTR, Nonresp, Pass\_eng).

**Resp - TC RESPONDS TO ACADEMIC REQUEST (frequency code):**

Response to academic instruction or academic behavior (see below) given to an individual or a group that includes the TC within 5 seconds (or beginning to respond within 5s). This includes teaching trials

and answers or responses to teacher questions. Academic response includes active participation in games when led by the teacher. Requests that require multiple responses (i.e. teacher asks students to “count to 10”) are coded as one response. Requests with distinctive teacher delivered stimuli between each student response are each counted separately. A response must occur to a discrete (a clear beginning and end) and specific instruction.

**Examples:**

- Teacher asks a lesson-related question and TC responds with a prompt answer (OTR, Resp).
- Teacher requests students to begin writing their spelling words in their books and TC complies (OTR, Resp).
- TC provides teacher with an example when TC was asked to name one of the class rules (OTR, Resp).
- TC writes each spelling word as the teacher dictates (OTR, Resp; OTR, Res; repeat for each spelling word).
- Covering BINGO numbers/vocabulary word after the teacher calls them out (OTR and Resp for each number called by teacher and covered by student).
- “Look at the first problem on page 42 of your math book” (OTR, Resp).
- “Let’s read our vocabulary words”...”rabbit” (pause and students respond) “horse,” (pause and students respond) “forest,” (pause and students respond—code as three instances of response if student responds each time: OTR, Resp; OTR, Resp; OTR, Resp).
- “Look at your paper at number 5” (OTR, Resp)...”find the word that means little” (code as 2<sup>nd</sup> OTR, Resp). ”Circle the word ‘tiny’”... (code as 3<sup>rd</sup> OTR, Resp).
- The teacher calls on the TC for an answer and the TC responds with the correct answer, an incorrect answer or says, “I don’t know.” (OTR, Resp)
- The teacher tells the class, “Repeat after me” (choral responding) and the TC responds with the rest of the class (OTR, Resp).
- Teacher says, “Raise your hand if you know the answer” and TC raises his/her hand; the teacher calls on TC and TC responds with either the correct or incorrect answer (code as OTR, Resp; OTR, Resp).

**Non-examples:**

- Teacher asks class who wants ice-cream for an upcoming party and TC raises hand (ignore—this is *not* an OTR to an academic/lesson-related task).
- Teacher asks the class “who can tell me what  $3 \times 3 = ?$ ” TC raises hand and the teacher calls on another student (code as OTR, Hand raise, Nonresp, and code TC as passively engaged).

**Nonresp - NON-RESPONSE TO ACADEMIC REQUEST (frequency code):**

TC fails to comply or begin to comply with an OTR in 5 seconds. If student happens to provide a response after the 5-second window to respond is closed, code “Resp” *after* the code “Nonresp.”

**Examples:**

- Teacher says “Do the next one,” and the student fails to attempt the next one (OTR, Nonresp).
- The teacher tells the class, “Repeat after me” (choral responding) and the TC fails to respond with the rest of the class (OTR, Nonresp).
- Teacher says, “Raise your hand if you know the answer” TC does not raise his/her hand (OTR, Nonresp) and the teacher then calls on TC, but TC does not respond. (OTR, Nonresp).

- Teacher asks TC a question; TC does not respond within 5 seconds (OTR, Nonresp). TC then provides a response soon after (Resp).

**Non-examples:**

- Teacher asks the class to raise their hands if they like a particular dessert—and the dessert is not part of the lesson/example of lesson and TC does not respond (do not code, not an academic OTR).
- Teacher asks students to stand up and push in their chairs, TC is not disruptive, but fails to respond after 5 seconds (code as Diseng).

**Hand Raise – HAND RAISE AFTER OTR (frequency code)**

Code this if the TC raises hand after teacher gives an OTR to class. If TC is not called on, code OTR → hand raise → non-response. If TC is called on, code OTR → hand raise → response. If hand raise is the requested response then you do not need to code hand raise. That would be OTR → response or non-response.

**Examples:**

- Teacher asks, “What is the capitol of Kansas?” TC raises hand and is called on (OTR, Hand raise, Resp)
- Teacher asks the class for a word that rhymes with “spring”. TC raises hand and the teacher calls on another student (OTR, Hand raise, Nonresp) then asks for more rhyming words and TC raises his hand and is called on (OTR, Hand raise, Resp)

**Non-examples:**

- Teacher asks the class to raise their hands if they like a particular dessert—and the dessert is not part of the lesson/example of lesson and TC raises his hand (do not code, not an academic OTR).
- Student raises hand to get teacher’s attention without a preceding OTR (do not code, no OTR given)
- Teacher says, “students, raise your hand if you know the answer” (OTR, Resp; hand raise is the requested response)
- The teacher tells the class, “Everyone tell me the answer to #5” (choral responding) and the TC responds with the rest of the class (OTR, Resp).

**bd –PHYSICAL/MOTOR OFF-TASK/DISRUPTIVE TC BEHAVIORS (frequency code):**

This is coded for deliberate physical or motor displays of inappropriate behavior. This includes posturing or gestures that are intended to provoke others, drawing attention to self, using classroom materials inappropriately, or self-stimulating in a disruptive manner. A disruptive behavior is any action made by TC that interferes with TC participation and the productive classroom activity of TC’s peers. Code each “bd” as one occurrence unless topography (the appearance of the bd) *changes or behavior ceased for at least 3 seconds*.

**Examples:**

- [Sequence] TC is rocking in his/her chair, begins tapping pencil, and falls out of the chair (bd, bd, bd).
- TC throws or tosses material at other students or around the classroom (bd).
- TC makes non-verbal noises (tapping an object, popping gum loudly, drumming on desk or stomping a foot all coded as “bd”).
- TC destroys property, such as ripping up a worksheet, or snapping a pencil (bd).
- TC colors or writes on desk, chair, clothes, etc. instead of paper (bd).

- During floor time if TC is expected to be in a criss-cross seated position, the following are coded as "bd": turning somersaults behind a table (bd), crawling across the floor on his/her hands and knees (bd), standing up bent over with bottom up in the air (bd).
- TC hits, pushes, bites, kicks, and grabs something from another person (code "bd" for each different topography, i.e. x5).
- Pulling someone's clothes (bd).
- Making obscene hand gestures at another person (bd).

**Non-examples:**

- Kneeling on chair to reach table or desk that is difficult to reach when sitting (ignore).
- Making verbal noises (grunts, humming, etc. then code this as "bv").
- During floor time when child is expected to be in a criss-cross seated position, the child is laying over on the floor for at least five or more seconds (code as "Diseng").

**bv – VERBALLY OFF-TASK/DISTUPTIVE TC BEHAVIORS (frequency code):**

Verbal statements that have the intent to provoke, annoy, pester, mock, whine, complain, tattle, or make fun of another, and are provocative in nature. Tone and volume of voice may be an indicator of a negative verbal statement, but must include content as described to be counted. This code also includes laughing at a peer when in trouble, chatting during work time if it is not task related or teacher permitted, talking out when not called upon by the teacher, or making noises during instruction. This code also includes making noises such as excessive sighing, clicking the tongue, blowing air out through the lips, any other audible distractions, as well as any verbal refusal to comply with a directive. Code each "bv" *separately if at least 3 seconds pass between the end of one incident and the beginning of the next, or if teacher or student responds to separate the events.*

**Examples:**

- (Sequence) Instructional setting is math table time in small groups. TC initiates with other child about a show he/she watched last night. Other child comments and after three seconds TC starts about the show again. Other child responds. Teacher redirects group back to math and the children comply (Diseng, bv, bv, rep\_gr, Pass\_eng).
- TC answers a question without raising his or her hand if expected by the teacher (bv).
- During an assignment, TC sighs out loud when he or she does not know how to answer a question without getting teachers' attention appropriately (bv).
- TC talks out after specifically being forbidden by teacher instructions (bv).
- TC says, "Aaugh! I don't wanna do this sum. It is too hard" (bv).
- TC is verbally bothering or making fun of someone (bv).
- TC threatens someone for example: "I'm going to cut you!" (bv).
- TC protests: "Hey, that's not fair!" (bv).
- TC refuses teacher direction, "No, I won't do it," or "make me!" (bv)
- TC challenges teacher saying "You can't make me do this work!" or complains that "this is stupid" (bv)
- TC uses curse words (bv).

**Non-examples:**

- After class, teacher allows students to talk to one another, TC talks to a friend (ignore).
- TC asks peer for a pencil or something related to assignment and gets started on work right away (ignore).

- Teacher welcomes a whole class choral response and the TC responds appropriately without raising his/her hand (OTR, Resp, Act\_eng).
- Student mumbles to self about instruction, whispers to self (no code)
- TC answers a question without hand raising as permitted by the teacher (OTR, Resp).
- TC quietly makes an obscene hand gestures at another person (code as “bd”)

### **CLASS STRUCTURE (all duration codes)**

**Note:** The general rule is: What is the primary instructional method that is occurring? Use the 5-second rule to change codes between the different class structures.

#### **Large – LARGE GROUP INSTRUCTION**

Is recorded when the TC is receiving the same instruction as all other students or the instructional grouping is larger than 6 students. Code “large” 5 seconds after the teacher directs the class to look up at her or the board and begins instruction.

##### **Examples:**

- All students listening to a teacher lecture (Large).
- The teacher calling out words to everyone for the spelling test (Large).
- All students doing a math worksheet with the teacher (even if given a few minutes in between instruction to complete items; Large).

##### **Non-examples**

- TC is working with teacher one-on-one (code this as one-on-one—see definition below).
- TC is working with a para-educator with one other peer (code as Small—see definition below).

#### **Small – SMALL GROUP INSTRUCTION**

Whenever TC is receiving the same instruction as at least one other student but not all students in the class. This instructional grouping needs to be 6 students or less and must be teacher led to count as small group. Code “Small” 5 seconds after the teacher directs the class to start working in their workbooks and quietly walks to TC’s group and begins instructing them.

##### **Examples:**

- Group of 6 (or fewer) students, including TC, are following an academic lesson led by the teacher at a table in the back of the room (Small).
- Instructional groups led by teacher where students share a common activity but different tasks with different instructions about what to do (Small).
- Groups are located at work or interest stations in the room, each of which is devoted to a different activity, with different tasks, and different instructions about what to do, and teacher is directing the small group that the TC is in (Small).

##### **Non-examples**

- TC is working with teacher one-on-one while a para-educator walks around providing support to the rest of the class (code this as one-on-one—see definition below).
- TC is working in a group with seven peers (code as Large).
- TC is working in a group of 3-4 peers on a project (code as Ind—see definition below).

#### **One-on-One- ONE-ON-ONE INSTRUCTION for TC with TEACHER:**

Use this code ONLY when the instructional setting is such that TC is working *alone* with the teacher, aide, or any other possible designations of teacher. Code “One-on-One” if *after 5 seconds* since transitioning the class from large group activity, the teacher is instructing TC *exclusively* and not focusing her/his attention/behavior on any other students during the session such as occurs in small group instruction.

**Examples:**

- A teacher and TC are working on a book report together for 20 minutes (one-on-one).
- ONLY the TC is receiving feedback at the back table for 10 minutes about a worksheet the class just completed (one-on-one).

**Non-examples:**

- The teacher is walking around and looking over the shoulder of TC (possibly prompting for 1-2 responses) and then continuing her monitoring of the class (Large).
- The teacher calling on TC to spell out loud in class (Large).
- The teacher conducting a round robin with math facts (Large).

**Ind – INDEPENDENT WORK:**

Is recorded when the target student is engaged in an activity and task which is self-managed or is within a small cluster of students that is NOT teacher led. This is often described as independent seatwork. The student in this situation is not receiving any direct teacher questions, commands, or talk. Count 5 *seconds* after teacher directs class to start working in their workbooks quietly and walks to her desk or indicates no intention of addressing the class with instruction any more.

**Examples:**

- Each student working on academic tasks by themselves for seatwork with no teacher instruction (Ind).
- TC is engaged in individual study (Ind).
- TC is using the computer without teacher directions (Ind).
- TC is working with a peer (Ind).

**Non-examples:**

- Students practice at desk while teacher provides instruction to the class (Large).

**Down\_time – DOWN TIME for teacher:**

This context is directed by the teacher. Indicates that students are “between activities” by a change in materials or change in location. Transition is recorded when there ceases to be any academic instruction or when students are shifting from one physical context of the room to another (i.e., from instructional to social and vice versa). Code “Down\_time” 5 *seconds* after the teacher has the student move from one activity to another, or has them exchange their instructional materials, or line up for a bathroom break.

**Examples:**

- Teacher answers phone call (Down\_time).
- Teacher talks with another teacher in the doorway (Down\_time).
- Teacher announces to the class to line up (Down\_time).
- Math ends and teacher asks students to put things away and go to work in groups (Down\_time).
- Teacher asks team leaders or clean-up helpers to collect students’ worksheets and bring them to her desk (Down\_time).
- Teacher has students pass their papers forward to the first person in the row and clean their work station (Down\_time).

- Teacher rings a bell or has a timer go off and students begin to clean up centers or stations (Down\_time).
- Student line up to go to recess or for a bathroom break (Down\_time).

***Non-examples:***

- Each student lines up to practice a fire drill or tornado drill in the middle of the lesson (the observer will press “Stop” on Tablet and restart observation when drill is complete and class returns to the room).
- TC is called to leave the room to go for remedial instruction in the library work room for the rest of reading class (Press “Stop” on Tablet and discretely check with teacher if student in set to return soon. If not and file is *not* at least 750 seconds long, reschedule to observe TC on a different day).

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## APPENDIX D: CW-FIT Student Satisfaction Survey

**CW-FIT Student Satisfaction Survey**

Do you like playing the CW-FIT Game?

Yes

No

What do you like about the CW-FIT Game?

Is there anything you don't like about the CW-FIT Game?

Do you think other kids should get to play the CW-FIT Game in their classrooms?

Yes

No

WHY?

Thank you for doing this survey! 😊