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I, Lauren E McKinley, hereby submit this original work as part of the requirements for the degree of Doctor of Philosophy in School Psychology.

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Approach

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by

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Abstract

A multiple baseline design across teachers was used to evaluate the effects of a systematic, Multi-Tiered System of Support (MTSS) approach to support implementation of a schoolwide video-modeling social skills curriculum. Specifically, teachers whose intervention implementation did not meet expectations when provided with typical schoolwide positive behavior support training (primary Tier) were provided with targeted training support (secondary Tier), and, when necessary, more individualized assistance (tertiary Tier). In addition, student behavior was examined to determine if differentiated implementation supports resulted in concurrent changes in student behavior. Results indicated that performance feedback was successful in achieving desirable teacher behavior (i.e., increased intervention adherence and maintained high levels of implementation) across all teachers. However, there was no relationship between teachers’ high levels of intervention adherence and student outcomes. Discussion focuses on a summary of findings as related to previous research, implications for practice in applied settings, and limitations of the current study.
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Table of Contents

Abstract .......................................................................................................................... ii
Acknowledgements ...................................................................................................... iv
Table of Contents .......................................................................................................... v
List of Tables ................................................................................................................ viii
List of Figures ............................................................................................................... ix
Introduction .................................................................................................................. 1
  Multi-Tiered System of Support (MTSS) for Students .............................................. 2
  Social Skills Training ................................................................................................... 4
  Multi-Tiered System of Support (MTSS) and Teacher Behavior ............................. 7
    Professional Development ......................................................................................... 7
    Behavioral Consultation and Coaching ..................................................................... 10
    Performance Feedback ............................................................................................. 11
  Negative Reinforcement ............................................................................................. 18
  Current Study ............................................................................................................ 21
Method .......................................................................................................................... 22
  Participants and Settings ............................................................................................ 22
  Materials ..................................................................................................................... 24
    Targeted Social Skills ............................................................................................... 24
    Social Skills Videos .................................................................................................. 24
  Dependent Measures and Data Collection .................................................................. 25
    Intervention Adherence ............................................................................................ 25
    Student Outcomes ................................................................................................... 26
Research Design…………………………………………………………………… 27

Procedures ................................................................................................. 28
  Consultant Training ................................................................................. 29
  Observer Training .................................................................................... 29
  Baseline (explicit training) ................................................................. 30

Performance Feedback Email (PFE) ...................................................... 31
Performance Feedback Meeting (PFM) .................................................. 31
Performance Feedback Meeting with Administrator (PFMA) ............... 32

Maintenance ............................................................................................ 32

Inter-OBServer Agreement ....................................................................... 33

Teacher Behavior ..................................................................................... 33
Consultant Behavior ................................................................................ 33

Social Validity .......................................................................................... 33

Results ....................................................................................................... 34

Overview of the Data ............................................................................... 34

Teacher Performance ............................................................................... 35
  Teacher 1 .............................................................................................. 35
  Teacher 2 .............................................................................................. 35
  Teacher 3 .............................................................................................. 36
  Teacher 4 .............................................................................................. 36
  Teacher 5 .............................................................................................. 37
  Teacher 6 .............................................................................................. 38
  Teacher 7 .............................................................................................. 38
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Performance</td>
<td>41</td>
</tr>
<tr>
<td>Teacher Behavior</td>
<td>43</td>
</tr>
<tr>
<td>Consultant Behavior</td>
<td>43</td>
</tr>
<tr>
<td>Social Validity</td>
<td>45</td>
</tr>
<tr>
<td>Teachers</td>
<td>45</td>
</tr>
<tr>
<td>Administrators</td>
<td>46</td>
</tr>
<tr>
<td>Discussion</td>
<td>47</td>
</tr>
<tr>
<td>Practical Implications</td>
<td>48</td>
</tr>
<tr>
<td>Future Research</td>
<td>52</td>
</tr>
<tr>
<td>Limitations</td>
<td>54</td>
</tr>
<tr>
<td>Conclusion</td>
<td>57</td>
</tr>
<tr>
<td>References</td>
<td>58</td>
</tr>
<tr>
<td>Appendix A: Targeted Social Skills</td>
<td>71</td>
</tr>
<tr>
<td>Appendix B: Sample Outline for Developing Video Scripts</td>
<td>74</td>
</tr>
<tr>
<td>Appendix C: Complete Video-modeling Script</td>
<td>77</td>
</tr>
<tr>
<td>Appendix D: Teacher Adherence Checklist</td>
<td>79</td>
</tr>
<tr>
<td>Appendix E: Observer Adherence Checklist</td>
<td>80</td>
</tr>
<tr>
<td>Appendix F: MTSS Flowchart</td>
<td>81</td>
</tr>
<tr>
<td>Appendix G: Performance Feedback Email</td>
<td>82</td>
</tr>
<tr>
<td>Appendix H: Performance Feedback Meeting</td>
<td>83</td>
</tr>
<tr>
<td>Appendix I: Social Validity Rating Scale</td>
<td>84</td>
</tr>
</tbody>
</table>
List of Tables

Table 1. Description of Levels of Support by Phase ..............................................28

Table 2. Teacher Behavior – IOA ...........................................................................43

Table 3. Consultant Behavior – IOA .................................................................44
List of Figures

Figure 1. Teacher Performance .................................................................40

Figure 2. Student Performance ................................................................. 42
Introduction

Educators face ongoing pressure to improve student outcomes with regard to academic achievement and social behavior. Recent federal and state mandates for educational excellence have prompted school personnel to provide learning environments in which each student can reach their highest potential (Lane, Bocian, MacMillian, & Gresham, 2004). The No Child Left Behind Act (NCLB; 2001) expects schools to identify, implement, and adapt effective practices to maximize academic achievement for all students (Colvin, Flannery, Sugai, & Monegan, 2009). Policy and legislation not only from NCLB, but also from the Institute of Educational Sciences (IES; 2013) and the Individuals with Disabilities Act (IDEA; 2004), mandate that educational programming be founded on evidence of effective practice (U.S. Department of Education, 2002). As these federal and state mandates have advocated for programs that enhance academic performance, schools and teachers are now held accountable to ensure that students meet specific standards. To guide educators, Common Core State Standards have been developed (NGA/CCSSO, 2010). States have recognized the need to develop standardized goals, which address what students are expected to know and understand by the time they complete each grade (NGA/CCSSO, 2010). When students are not on track to meet these standards, federal and state mandates require schools to implement evidence-based interventions that lead to improved child outcomes (NCLB, 2001).

Although educators are now required to use empirically-based instruction and interventions for all students, research documents that teachers do not consistently implement these interventions, particularly when providing services to students with diverse needs, and especially in classrooms serving students with Emotional and Behavioral Disorders (EBD; Duchanie, Jolivette, & Fredrick, 2011). Successful implementation of evidence-based
interventions in classrooms for students with EBD has various challenges. Students with EBD experience a number of social, emotional, and behavioral difficulties that interfere with their success in educational settings. Therefore, teachers serving students with EBD need to be prepared to use simple, effective strategies to support improved outcomes (Stormont, & Reinke, 2014). Additionally, it has been demonstrated that while implementing social and behavioral interventions, teachers face challenges learning, utilizing, and sustaining their use of new practices, and even self-report that they need more training in this area (Stormont, Reinke, & Herman, 2011). To better support these teachers in the implementation of evidence-based interventions to improve students’ academic and social behavior outcomes, schools themselves must implement evidence-based practices to train and support staff by using high quality professional development and continuous consultation.

**Multi-Tiered System of Support (MTSS) for Students**

One approach for the delivery of evidence-based interventions is through the use of a Multi-Tiered System of Support (MTSS; also referred to as Response to Intervention [RTI]) framework for decision-making to provide the optimal amount of instructional and intervention support for students (Myers, Simonsen, & Sugai, 2011). Within this framework, students receive increasingly intense instruction and intervention along a continuum of support based on student need and response to the interventions (Jimerson, Burns, & VanDerHeyden, 2015). In a multi-tiered model, core instructional practices (Tier I) involve class-wide or school-wide academic and behavioral practices designed to improve student performance within the core curriculum. Targeted interventions (Tier II) include supplemental interventions, typically within a small group, for students who are not achieving an expected level of performance with Tier I core instruction. When students do not adequately achieve with supplemental/targeted interventions
(Tier II), more individualized, intensive interventions (Tier III) are utilized in the context of a structured problem-solving model. Within an MTSS approach, implementation of instruction and interventions, as well as student progress, must be continuously monitored.

Schoolwide Positive Behavior Support (SWPBS) is an application of MTSS to students’ social behavior. Students who exhibit high rates of prosocial behavior are more likely to experience academic success (Caprara, Barbaranelli, Pastorelli, Bandura, & Zimbardo, 2000), whereas students who exhibit low rates of prosocial behavior are at greater risk for school failure and poor academic performance (Walker, Ramsey, & Greshman, 2004). Therefore, evidence-based programs and/or interventions must also be used to support social behavior (Stormont & Reinke, 2014; Sugai & Horner, 2002). Research has documented predictive relationships between children’s social behavioral development and their academic achievement. For example, Caprara and colleagues conducted a longitudinal research study that examined the effects of prosocial behavior on student’s developmental trajectories in academic and social domains. They found that, prosocial behaviors (cooperating, helping, sharing, and consoling) in third grade were better predictors of eight-grade academic achievement than academic achievement in third grade (Caprara, Barbanelli, Pastorelli, Bandura & Zimbardo, 2000). Therefore, it is critical that proactive, early identification practices, such as SWPBS, are in place to identify children who are at risk, immediately, rather than waiting until patterns of emotional and behavioral difficulties are established (Gresham, 2007). Once students are identified as at-risk for behavioral difficulties, supplemental evidence-based behavioral support interventions, have been shown to remediate behavioral difficulties (Gresham, 2007).
Social Skills Training

Social skills training has been identified as an effective strategy for both promoting students’ social development and preventing challenging behavior and mental health concerns and is often a key part of SWPBS programming (Caldarella, Shatzer, Gray, Young, & Young, 2011). The development of appropriate social skills is a critical component of student development, especially for students with emotional and behavioral needs. Social skills training usually involves selecting or prioritizing critical social skills that need to be improved; demonstrating, explaining, increasing opportunities to respond, or modeling these skills; having the student practice these skills while being coached; providing feedback and reinforcement during practice; and identifying a variety of social situations in which the skill might be useful (Cooper et al., 2007; Rutherford, Quinn, & Mathur, 1996). Direct instruction is an important technique for teaching social skills, which involves verbally explaining social behavior (Elliot & Gresham, 1993). Additionally, the use of models to effectively assist in the development of appropriate social behavior has been demonstrated repeatedly (Cooper et al., 2007).

Social skills video-modeling is an effective intervention for typically developing students, students with developmental disabilities, students with autism spectrum disorders, and students with emotional and behavioral needs (Baker et al., 2009; Wang & Rauno Parrila, 2011). Planned models, such as a videotape of a person emitting specific behaviors, are prearranged antecedent stimuli that help individuals acquire new skills by showing the learner exactly what to do (Cooper et al., 2007). Video-modeling involves having an individual watch a video of her/himself (or a similar peer) engaging in the behavior targeted for improvement (Baker, Lang, & O’Reilly, 2009). Researchers have incorporated video-modeling across tiers of SWPBS instruction and intervention to promote social skill development (Alter & Vlasak, 2014).
The impact of both MTSS and SWPBS practices, including social skills training, on student outcomes depends on the level of implementation and effectiveness of the core instructional practices and supplemental interventions. It is crucial that teachers receive professional support for implementing evidence-based instruction and interventions to improve academic outcomes and encourage appropriate social behaviors. As schools improve efforts toward increasing implementation of evidence-based practices, efforts to provide effective professional development are increasingly important (Domitrovich, Gest, Jones, Gill, & Sanford DeRousie, 2010). For accurate interpretation of intervention results, interventions must be implemented with high levels of adherence.

Intervention Adherence

Intervention adherence (also known as treatment integrity) is the degree to which a plan is implemented as intended (Gresham, 1989; Gresham, 2009; Yeaton, & Sechrest, 1981). To make conclusions about the effectiveness of an intervention, the independent variable must be measured to truly evaluate the functional relationships between the experimentally manipulated variables and the dependent variables (Gresham, Gansle, & Noell, 1993). Specifically, to allow for accurate data-based decision making, strong evidence that interventions have been implemented as planned must be established (Gansel & Noell, 2007). For example, low intervention implementation may be misinterpreted as a student not responding to an intervention when, in fact, the intervention was not carried out as it was designed (Gresham, 2005). Various threats to internal and external validity arise when intervention adherence is not monitored (Gresham, 1989; Moncher & Prinz, 1991). Many failures of evidence-based interventions may be attributed to poor intervention adherence.
Although the importance of monitoring intervention adherence in practice and research is clear, examinations of the use and reporting of intervention adherence in research has been discouraging (Barnett et al., 2014; Gresham, Gansel, & Noell, 1993; Gresham, Gansle, Noell, Cohen, & Rosenblum, 1993; McIntyre, Gresham, DiGennaro, & Reed, 2007; Peterson, Homer, & Wonderlich, 1982; Sanetti, Gritter, & Dobey, 2011). In 1982, Peterson and colleagues reviewed all studies published in the Journal of Applied Behavior Analysis (JABA) between 1968 and 1980 and found only 20% of studies reported data on intervention adherence. Since then, multiple reviews have been conducted examining intervention adherence/treatment integrity in peer-reviewed journals (Barnett et al., 2014; Gresham, Gansel, & Noell, 1993; Gresham, Gansel, Noell, Cohen, et al., 1993; McIntyre et al., 2007; Peterson et al., 1982; Sanetti et al., 2011). Overall, there has been a steady increasing trend in the number of journal articles that reported adherence data. Barnett and colleagues (2014) reported 70.3% of school-based intervention studies with students reported data on intervention adherence. Although the recent increase in the number of studies reporting treatment adherence is promising, far too many studies still lack in reporting intervention adherence. These data must be recorded and reported to allow for researchers and practitioners to engage in data-based decision making. It is also presumable that higher levels of intervention adherence were associated with better intervention outcomes (Gresham, Gansel, & Noell, 1993; Gresham, Gansel, Noell, Cohen, et al., 1993). This lack of data on intervention adherence highlights the failure of many experimental studies to establish a functional relationship between the independent and dependent variables.

Barnett and colleagues (2014) identified ways that practitioners may support intervention adherence measurement by using (a) decision rules that include intervention adherence and empirically derived criteria for performance, (b) multiple measures of intervention adherence, (c)
schedules for obtaining intervention adherence data, and (d) methods to improve intervention adherence when it is low or includes errors. Schools must strive to implement evidence-based practices and provide systematic support to teachers to increase intervention adherence. More research examining how to support teachers as they implement evidence-based practices, ways to monitor adherence to interventions, as well as to investigate the relationship between teacher adherence and student outcomes is needed.

Multi-Tiered System of Support (MTSS) and Teacher Behavior

In addition to serving as model of service delivery to students, MTSS may also serve as a framework for providing support to teachers in order to promote adherence to curriculum and intervention plans (Myers, Simonsen, Sugai, 2011). When applying MTSS to supporting teachers’ intervention adherence, those who do not demonstrate consistent and accurate intervention implementation (i.e., low intervention adherence) may receive targeted training support (secondary Tier), and, when necessary, more individualized assistance (tertiary Tier). Few studies have applied MTSS to teachers’ implementation adherence (Stormont & Reinke, 2014), with various classroom management skills such as prompts for social behavior, academic opportunities to respond, and specific praise (Myers et al., 2011). More research is needed examining MTSS practices (tiered model of intensity of support matched to data on need) as a model for supporting teachers as they learn new skills.

Professional development. There is a strong need for high quality professional development in schools to support implementation of expected and novel teaching practices (Guskey & Yoon, 2009). A substantial body of research suggests, “training by itself does not result in positive implementation... or intervention outcomes” (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005, pp. 40-41). This “training only” approach to professional development has
traditionally been delivered in passive, one-session workshops with few opportunities to achieve skill fluency through practice or to receive feedback, (Joyce & Showers 2002; Myers, Simonsen, & Sugai, 2011). These sessions typically include lectures, handouts, demonstrations (Hemmeter, Snyder, Kinder, & Artman, 2011), and rarely include observation of the trainees using the skills they have learned (Codding, Skowron, & Pace, 2005). Absent additional supports, these strategies often fail to produce durable changes in teacher practices.

For example, Witt, Noell, LaFleur, and Mortenson (1997) provided training to teachers on behavioral intervention implementation. Training focused on presenting a rationale for intervention section and an explanation of how to implement the selected intervention. Adherence data revealed high levels of intervention implementation for one to several days followed by a decrease to very low levels of implementation. Similarly, Noell and colleagues (2005) found that levels of intervention adherence began low, and declined to very low levels in the absence of follow-up support and/or consultation. These studies suggest the “consult and hope” strategy described by Gresham (1989, p. 48) is likely to fail in leading to meaningful changes in teacher behavior.

To produce a lasting effect on teacher behavior, it is necessary to provide an intensive or explicit training of the newly learned skill (Stormont & Reinke, 2014). In contrast to the aforementioned “training only” approach, professional development should include explicit instruction of the intervention, modeling, practice, and feedback, followed by observation of the teacher demonstrating mastery of the specific steps in training (Joyce & Showers, 2002; Stormont & Reinke, 2014).

Near the turn of the millennium, Ball and Cohen (1999), suggested that teacher training needs to move beyond passivity and embrace an interactive method of professional development.
Two years later, Garet and colleagues (2001) conducted the first large-scale empirical comparison of effective components of professional development. Several ways for improving professional development were identified. First, teachers reported that sustained and intensive professional development is more likely to have an impact than brief professional development. Second, professional development that produces enhanced knowledge and skills should incorporate three core components: (1) academic subject matter (content), (2) provide opportunities for hands-on work (active learning), and (3) integration into the school/classroom with opportunities for generalization.

Espousing the principles outlined by Garet and colleagues (2001), practice based professional development (PBPD) emphasizes: (a) training procedures tailored to meet the needs of the learning community, (b) imparting requisite pedagogical knowledge, and (c) skill building via practice and feedback (Reineke et al., 2014; Harris, 2015). PBPD eschews relying on only passive means of training (e.g., lecturing), instead incorporating hands-on activities that stress skill building. PBPD has resulted in gains in teacher knowledge, confidence, and perceived utility of content when used to train teachers in social skills instruction and the design, implementation, and evaluation of function-based interventions (Barton-Arwood, Morrow, Lane, & Kristine, 2005; Lane et al., 2015). PBPD has also resulted in high levels of teacher-led academic intervention implementation (Harris et al., 2012; Harris, Graham, & Adkins, 2015). Regardless of the format or structure of professional development, necessary supports should be put in place to sustain an environment in which teaching and learning can continue to occur following initial training (Fixsen, Blasé, Naoom, & Wallace, 2009; Zepeda, 2011).

When new skills are learned, learners are in need of multi-dimensional support for sustained use (Haring & Eaton, 1978; Noell et al., 2005). Professional development, when
conceptualized as part of a MTSS continuum of support for changing teacher behavior, is a universal (i.e., Tier I) level of support provided to all teachers (Myers et al., 2011). When data suggest universal supports are not producing the desired behavior change or in the case of high-stakes situations (e.g., implementation of a school-wide curriculum) more intensive supports should be provided (Barnett, Daly, Jones, & Lentz, 2004).

**Behavioral consultation and coaching.** Both coaching and consultation can be utilized within the school setting to provide higher intensity professional development support to teachers. While coaching primarily focuses on providing support to teachers to directly to improve their skills in a particular domain, consultation is generally considered an indirect service-delivery model of support, in which the consultant and consultee work together to resolve situations related to the client (Bergan & Kratochwill, 1990). In consultation, the consultee is primarily responsible for treatment implementation.

Coaches are experts that provide needs-based support via increased skill-based practice opportunities, direct observation, corrective feedback, instructional support, modeling, and positive reinforcement (Fixsen et al., 2004, 2009; Shanklin, 2006). In schools, the role of coach can be filled by outside consultants or resident teachers with advanced experience in the topic of training. When paired with initial professional development, for example, coaching has demonstrated utility in improving the quality of literacy instructional practices (Neuman, Cunningham, 2009; Poglinco & Bach, 2004), implementation of class-wide behavior management interventions (Becker, Bradshaw, Domitrovich, & Ialongo, 2013; Reinke, Stormont, Herman, & Newcomer, 2014), and school-wide implementation of PBIS (Hershfeldt et al., 2012). As is the case with support provided within an MTSS context, the use of coaching can be tailored (e.g., frequency; duration) to meet the needs of specific teachers.
In addition to high quality professional development and coaching, support for teachers can also be provided through ongoing consultation. Through consultation, the consultant and consultee cooperatively identify, evaluate, and remediate problem situations of a client (Sheridan, Salmon, Kratochwill, & Carrington Rotto, 1992). Behavioral consultation, developed by Bergan and Kratochwill (Bergan, 1977; Bergan & Kratochwill, 1990; Kratochwill & Bergan, 1990) is a model of indirect service delivery based on behavioral theory. In the behavioral consultation model, problem solving includes problem identification, in which target variables are defined and a plan for baseline data collection is developed; problem analysis, in which baseline data and other relevant classroom and contextual variables are analyzed to verify the problem situation and inform intervention planning; intervention implementation, including attention to support for implementation and monitoring fidelity of implementation; and intervention evaluation, used to determine goal attainment, intervention effectiveness, need to modify (based on progress data) and social validity (Kratochwill, Elliott, & Busse, 1995). Consultants can help teachers identify barriers to intervention adherence and strategies for promoting adherence, tailoring consultation support to the needs of the teacher.

**Performance feedback.** One strategy that has been well documented as an effective method for providing support for teachers’ implementation of new interventions through consultation and coaching is to provide data-based performance feedback, which also is consistent with research on effective professional development procedures (Hemmeter et al., 2011; Jones, Wickstrom, & Friman, 1997; Mortenson & Witt, 1998; Noell et al., 2000; Reinke, Lewis-Palmer, & Martin, 2007; Reinke, Lewis-Palmer, & Merrell, 2008). It has been well demonstrated that shortly after intensive training programs without structured follow-up consultation, levels of intervention adherence drop to low levels (Mortenson & Witt, 1998; Noell
et al., 1997, 2000; Witt et al., 1997) and increase once teachers are provided performance feedback (Jones et al., 1997; Witt et al., 1997). Noell et al. (2005) defined performance feedback as a procedure used to systematically communicate individuals’ current level of behavior. Performance feedback is a system of providing information, knowledge, or data to promote acquisition or maintenance of new behaviors (Mortenson & Witt, 1998).

For over 40 years, performance feedback has been an effective method to change teacher behaviors such as increasing intervention implementation (Hiralall & Martens, 1998; Solomon et al., 2012; Noell et al., 2005), as well as improving a number of target variables such as opportunities to respond, praise statements (Simonsen, Myers, & DeLuca, 2010), classroom management strategies (Cavanaugh, 2013), peer tutoring plans (Noell et al., 2000), and classroom student behavior (Colvin et al., 2009). Performance feedback supports teachers to implement teaching practices accurately, consistently, and contextually (Crow & Snyder, 1998; Noell et al., 2005). In the school setting, performance feedback involves providing the teacher with feedback using data from observations of that teacher in the context of the classroom (Hemmeter et al., 2011). Research dating back from the 1970s has indicated that student behavior (academic and social-behavior performance) is affected by the relationship between performance feedback and teacher behavior (Cossairt, Hall, & Hopkins, 1973; Jones et al., 1997; Martens, Hiralall, & Bradley, 1997; Mortenson & Witt, 1998; Noell, Duhon, Gatti, & Connell, 2002; Noell et al., 1997).

Noell and colleagues (1997) examined the impact of consultation only and consultation including performance feedback on intervention adherence and student academic performance. During the consultation only phase, teachers’ implementation decreased and resulted in low levels by the end of the phase. During the performance feedback phase, all teachers exhibited
substantial increases in intervention adherence. Moderate to high levels of intervention adherence were only maintained when performance feedback was provided. This study demonstrated that performance feedback is an effective way to improve intervention adherence. A benefit of this study was that they also measured the intervention adherence of the experimental procedures. The current study also measured intervention adherence of performance feedback to ensure that the consultants are also implementing performance feedback as planned. Additionally, the current study expanded research regarding the types of teacher behaviors and interventions for which performance feedback is effective.

In the first randomized field trial examining the effects of performance feedback within behavioral consultation targeting intervention plans, Noell and colleagues (2005) compared the effects of consultation consisting of (a) brief weekly interviews, (b) weekly interviews combined with an emphasis on the commitment to implement the intervention, and (c) performance feedback. Performance feedback was associated with superior intervention implementation and student behavioral outcomes when compared to the two other conditions, which suggests that merely contact with the consultant is not enough. Specifically, this study emphasized that during the consultation meetings, a review of implementation data appears to be a critical factor in maintaining implementation.

To reduce reactivity to measurement and appropriately measure behavior that occurs over an entire day, Noell and colleagues (2005) used permanent products to measure intervention adherence. Although this method has strengths, direct observation should accompany the permanent products to ensure implementation. Also, adherence to the consultation process was not directly measured in the Noell study. In the current study, both of these issues were addressed. First, intervention adherence was measured by using an intervention adherence
checklist, permanent product, and direct observation, providing a comprehensive assessment of adherence. Second, the current study recorded adherence data for performance feedback, assessing the degree to which the consultants implemented the intervention as planned.

In another study investigating performance feedback, Simonsen et al. (2010) examined the efficacy of a specific teacher training protocol (prompt-occasion-reinforce training [PORT]), which involved explicit training with performance feedback, to increase desired teacher behaviors (the use of classroom management skills). Researchers used a multiple baseline across behaviors design to examine if behavior change was or was not functionally related to the PORT training. Targeted behaviors included providing prompts for appropriate behavior, providing opportunities to respond, and providing specific praise. The PORT training involved two phases, explicit training and performance feedback. The explicit training condition included explicit instruction, activities, and self-management strategies to promote generalized behavior change, whereas the performance feedback condition included data review, contingent praise, and error correction. The performance feedback condition consisted of daily meetings with the teacher, as well as receiving daily feedback. Results indicated that there was not a functional relationship between explicit training and teacher behavior; however, introducing performance feedback following training was functionally related to an increase in teachers’ use of each skill.

Although Simonsen and colleagues (2011) provide much detail regarding the procedures used during the explicit teacher training and performance feedback, they did not measure the adherence of the independent variable. Additionally, one practical limitation to their study is that the level of performance feedback provided to teachers was very intense and implemented at the same level of intensity with each teacher behavior, which may not be feasible in typical school settings. The study supports the use of performance feedback as an effective means to deliver
professional development; however, additional research is needed to examine the most sustainable model for the delivery of performance feedback.

In the majority of research examining performance feedback, support is delivered in a ‘package’ to all teachers, where everyone receives the same intensity of performance feedback. In a school setting, it makes sense that providing intensive performance feedback for all teachers may be difficult for administrators, consultants, or coaches to sustain. The current study expands the research on performance feedback by separating the typical ‘package’ into separate packages with varying degrees of intensity matched to the demonstrated need for support. Ultimately, this method may be an effective, efficient, and sustainable model of providing support to teachers. When considering performance feedback embedded within the foundation of an MTSS framework for supporting teacher adherence, the initial professional development serves as Tier I instruction. As intervention adherence typically drops to low levels over time, performance feedback is often provided as a way to deliver follow-up support. Within the MTSS framework proposed in the current study, the intensity of performance feedback was delivered depending on the level of need based on levels of intervention adherence.

Hemmeter et al. (2011) examined the effects of professional development followed by individualized consultation that included data-based performance feedback delivered via email on preschool teachers’ use of descriptive praise. In the study, consultation support and performance feedback was provided depending on the needs of the teacher. Additionally, they examined whether or not the increased use of descriptive praise was associated with student outcomes (engagement and challenging behaviors). They found that all teachers increased their use of descriptive praise following the introduction of the training and performance feedback. However, results regarding student engagement and challenging behaviors were mixed. It was
suggested that student attendance might have impacted the student outcome data.

Overall, the Hemmeter et al. (2011) study made multiple contributions to the literature on performance feedback. First, this study outlined specific features of the explicit training with teachers and highlighted the importance of measuring the implementation of training procedures. Second, the researchers demonstrated that performance feedback provided via email is an effective and efficient method for changing teacher behavior. Third, the study extended research by examining performance feedback to address class-wide behaviors rather than the behavior of specific target students. Finally, teachers received the performance feedback emails and additional supports as needed. Unfortunately, the researchers did not explicitly report their decision rules to inform future research.

The current study expands on Hemmeter et al. (2011) in multiple ways. First, the current study also examined the method of providing performance feedback via email in Tier I. Second, the current study was focused on implementation of a class-wide program rather than individualized interventions. Third, student outcomes were monitored to examine the effects of performance feedback on student behavior. Finally, the current study explicitly stated decision rules for providing differentiated levels of support to teachers, and used them as a guide in data-based decision-making.

Sanetti, Fallon, and Collier-Meek (2013) also examined the effects of a response-dependent performance feedback system on teacher adherence. The study utilized a multiple baseline design across teachers to examine school personnel’s (internal consultants) implementation of a performance feedback intervention to teachers. The internal consultants were able to increase teachers’ intervention adherence with performance feedback. Teachers and internal consultants displayed varying levels of need regarding support. The primary dependent
variable was intervention adherence, which was examined at two levels: (a) internal consultant’s review of teachers’ implementation of a self-monitoring intervention and (b) researchers review of the internal consultant’s implementation of the performance feedback intervention. Teachers moved between three phases (training, no performance feedback, performance feedback) depending on their level of need. Overall, researchers found that once teachers received performance feedback, their intervention adherence data increased. Interestingly this improvement was seen even though feedback was not provided on a regular schedule (e.g., daily or weekly), rather on a response-dependent schedule (i.e., when intervention adherence levels were low). These finding may represent a more feasible model for delivering performance feedback in applied settings with school personnel. The MTSS approach examined in the current study expanded the findings of the Sanetti et al. (2013) study by also providing support on a response-dependent schedule.

Myers, Simonsen, and Sugai (2011) applied MTSS logic to professional development on rates of desired teacher behavior. They examined the effects of teacher’s intervention adherence within an MTSS approach on teacher use of verbal praise. Specifically, teachers received a continuum of professional development which began with a core training experience, and when necessary, progressed through more intensive training support based on need. During Tier I professional development, teachers received training in SWPBS, including the use of specific praise. During Tier II interventions, teachers received brief consultation with rationale and specific examples of contingent praise, weekly data on before and after ratios of verbal praise, and weekly praise from the researcher contingent on improved rates of contingent praise statements. During Tier III interventions, teachers received feedback after each observation session, via email and in person. The researcher also provided the teachers with overt daily
scripts to use when praising students, self-prompts, as well as modeled specific and contingent praise, and presented and discussed data. They found that teachers responded to differentiated training supports and improved their rates of praise. Although this study did measure student outcomes (academic engagement, off-task, and disruptive behavior), conclusions and inferences cannot be attributed to the differentiated professional development because the design did not establish control with this relationship. The current study measured student outcomes (social skills ratings) to examine the impact of the performance feedback on student outcomes.

Perhaps most importantly, Myers et al. (2011) found that intervention implementation improved when providing performance feedback within an MTSS approach to teachers’ use of verbal praise. To expand on this, the current study applied an MTSS approach to teachers’ intervention adherence while implementing a class-wide social skills video-modeling intervention, which has not been done before. Most research involving performance feedback with teachers has focused on academic concerns, challenging behaviors, opportunities to respond, classroom management strategies, reinforcement, or praise statements (DiGennaro, Martens, & McIntyre, 2005; Hemmeter et al., 2011; Myers et al., 2011; Noell et al., 1997; Noell et al., 2000; Noell et al., 2005; Sanetti et al., 2013; Simonsen et al., 2010). Furthermore, much of the research with implementation adherence has focused on teacher–student dyads, targeted students, or small groups and very few studies examined student behavior at the class-wide level (Colvin et al., 2009; Hemmeter et al., 2011). To expand on this, the current study examined the effects of performance feedback for teacher adherence to a class-wide intervention.

**Negative Reinforcement**

The use of negative reinforcement in conjunction with performance feedback has also been shown to be an effective strategy to facilitate behavior change. Noell et al. (2000)
employed a multiple baseline design across participants to evaluate the impact of the consultation procedures (performance feedback with a negative reinforcement contingency) on teacher implementation of the peer-tutoring program and to evaluate the impact of the peer-tutoring program on student academic outcomes (reading comprehension). Participants included five elementary school teachers and five regular education elementary students. The primary target behavior was the accuracy of teacher implementation of the peer-tutoring plan, which was measured by completion of permanent products. Adherence measures for in-class trainings as well as performance feedback sessions were gathered using direct observation and adherence checklists. During the initial implementation, teachers’ intervention adherence was variable, and the data exhibited a downward trend. When consultants held brief daily meetings (which was hypothesized to be a negative reinforcement contingency as it was hypothesized that the teachers wished to avoid the meeting [e.g., negative evaluation from the principal]) with the teachers to discuss the intervention, implementation improved for two of five participants. Four of the teachers implemented the intervention at levels substantially above baseline during the performance feedback condition, whereas intervention adherence for one teacher increased following discussion of an upcoming follow-up meeting with the principal. Additionally, researchers found that high levels of implementation were maintained when the schedule of performance feedback was thinned from daily to every other day. This research indicates the need for additional research to clarify the most effective ways to reinforce intervention adherence, identify the essential components of performance feedback, and methods for adjusting follow-up procedures to meet individual teachers’ needs. Essentially, a MTSS framework would allow for the level of teacher support provided to match the level of support needed.
Positive effects were also found in another study which utilized negative reinforcement and performance feedback. DiGennaro, Martens, and McIntyre (2005) examined the extent to which intervention adherence was increased and maintained for four teachers in their regular classroom settings as a result of performance feedback and negative reinforcement. Within this performance feedback package, teachers received daily written feedback about their accuracy in implementing the intervention and were able to avoid meeting with the consultant to practice missed steps as long as they maintained 100% adherence. The criteria of reaching 100% adherence was determined as anything less than 100% adherence allowed for teachers to receive continued practice regarding missed steps in needed areas. They found that three out of four students’ behaviors responded to the teacher receiving the intervention. DiGennaro and colleagues (2005) demonstrated that teacher’s levels of intervention adherence could be increased by allowing teachers to avoid daily meetings with consultants if they maintained 100% adherence. Similar to Hemmeter et al. (2011), teachers received support based on their level of need as determined by the measure of intervention adherence. However, DiGennaro and colleagues (2005) provided decision rules, which indicated what level of support the teachers needed as well as when they had reached appropriate criteria to begin thinning the intervention. Overall, this study demonstrated that: (1) a negative reinforcement contingency in conjunction with performance feedback can be an effective way to increase intervention adherence, and (2) gains in intervention adherence may be maintained over time as the schedule of performance feedback and negative reinforcement is systematically thinned. The current study built on these two findings by incorporating a negative reinforcement contingency to performance feedback at Tier III, as well as thinning performance feedback in a systematic manner to examine intervention maintenance.
Current Study

The current study examined the effects of explicit training followed by performance feedback on teachers’ implementation adherence for a class-wide social skills video-modeling intervention using an MTSS framework for delivering professional development and additional follow-up support. This research took place in an alternative setting for students with diverse emotional and behavioral needs.

In addition to improving teacher’s implementation adherence, this study strived to examine the relationship between changes in teacher behavior and the corresponding effects on students’ social behavior, as improving academic and social success is the goal of educational research. Many studies involving intervention implementation incorporate researchers as the primary implementers (Sanetti et al., 2013). However, this study aimed to utilize researchers as well as natural implementers such as administrators and school psychologists working within the district. Overall, this study aimed to replicate and extend the previous findings of performance-feedback research targeting intervention adherence in school settings.

The purpose of this study was to explore teachers’ and students’ patterns of response with regard to intervention adherence for a class-wide social skills video-modeling intervention replicated across seven classrooms. The following research questions were examined:

1. Would teachers who did not adequately respond to core instructional professional development on the intervention strategy increase their intervention adherence when provided with a continuum of performance feedback that varied in intensity based on their specific level of need?

2. Would students’ performance increase once the teacher had exhibited high levels of intervention adherence?
Method

Participants and Settings

The delivery of performance feedback within a multi-tiered approach to professional development was implemented in a K-12 alternative school setting to support teachers as they implemented a class-wide, social skills video-modeling intervention. This school, within a city in the Midwest, was a public separate facility for students with disabilities and specialized in providing intensive support for students with behavioral and/or mental health needs. At the time of the study, the school served approximately 59 students between the ages of eight and 18 from various school districts. The students were grouped in seven classes in the school. Of the students served, approximately 12% were in grades three through five, 17% were in grades six through eight, and 70% were in grades nine through 12. The percentage of students identified with a disability was 100%. The majority of students who attended the school met the criteria for Emotional Disturbance and required specially designed instruction to support appropriate behavior as indicated through their Individualized Education Plans (IEPs).

All students enrolled in the school participated in the study \((N = 59)\). Individual student data were not reported but rather class-wide averages. The intervention that was provided to the students (i.e., social skills video-modeling) and the student data that were gathered (i.e., social skills ratings) were part of the school-wide practices.

All seven participating teachers were female, and, with the exception of one teacher (who held certification as a general education teacher), they were all trained as intervention specialists and collectively had over 90 years of teaching experience across various educational settings. Teachers’ years of experience ranged from 20 to less than 1 \((M = 5.86\) years). Teachers shared that they were trained in classroom management (approximately 8-12 hours per year), which
primarily consisted of Crisis Prevention Institute Training, but were not trained in the principles of Applied Behavior Analysis (ABA). Before the study began, a letter explaining the purpose of the study was given to each teacher and consent was obtained for all participants prior to the beginning of the study.

According to information gathered via the School-wide Evaluation Tool (SET; Horner et al., 2004), current supports that were adequately in place included (a) behavioral expectations defined, (b) behavioral expectations taught, (c) behavioral expectations rewarded, and (d) district level support for school-wide procedures. Ongoing efforts were occurring in regard to (a) systematic responses to rule violations, (b) information gathered to monitor student behavior, and (c) local management support for school-wide procedures. Although the school’s summary score was not at or above 80%, it was determined that the aims of the current study aligned with the school’s goals related to improving their school-wide practices. Administratively, the school supported MTSS procedures for academics and behavior. Following consultation with school staff, it was determined that the intervention would be implemented during a pre-established block of time allotted for social skills curriculum.

A school psychologist intern and second-year graduate students in school psychology, as well as a visiting professor with a doctorate in School Psychology served as the consultants, providing support to teachers regarding the implementation of the intervention. The principal and assistant principal assisted with the performance feedback meetings when warranted (see below). First-year graduate students in school psychology were trained to use appropriate data collection tools to conduct adherence checks of intervention implementation. Additionally, the school psychologist employed within this setting assisted by collaborating with the primary researcher.
The video-modeling social skills intervention was implemented in students’ classrooms during the block of time allotted for social skills curriculum, which occurred daily, for the first 15 min of the day. The performance feedback component of the teacher support intervention took place in the teachers’ lounge prior to the next day’s social skills block.

Materials

Targeted social skills. The school’s building-level team determined social skills were an important variable to target for a schoolwide intervention, and thus, were implemented within every classroom. As previously discussed, children with emotional and behavioral disorders typically have a wide range of significant social skill deficits (Quinn, Kavale, Mathur, Rutherford, & Forness, 1999). Thus, the majority of students who attended this school required specially designed instruction to support the development of prosocial behaviors as indicated through their IEPs. After consultation with the building-level team, it was determined that the school-wide intervention would target 11 social skills, described in Appendix A. To select these skills, the team considered skills addressed through the previous social skills program as well as skills identified as meaningful through two research-based programs, the Social Skills Improvement System (Elliot & Gresham, 2007) and Skillstreaming (McGinnis & Goldstein, 2007).

Social skills videos. Videos were created (using iMovie via the collaborative efforts of the primary researcher, school psychologist intern, and school psychologist) for each of the 11 social skills to be targeted through intervention. The social skills videos incorporated direct instruction, modeling, opportunities to practice, reinforcement, and generalization techniques to support students’ development of the targeted pro-social skills. Five videos were created for each skill per age group (i.e., elementary school, middle school, and high school) to model the
skill in various settings, including the classroom (2 videos), hallway, cafeteria, and gym. Each video included a definition of the social skill followed by students appropriately modeling the skill, receiving teacher praise for demonstrating the skill, as well as an outlined description of an activity to provide an opportunity for students to practice the skill. The activities incorporated into the videos were developed based on procedures from a research-based curriculum, the *Social Skills Improvement System* (Elliot & Gresham, 2007). Appendix B includes a sample outline of a script that was used to develop the role-play component of a social skills video (see Appendix C for a sample of a completed role-play script).

**Dependent Measures and Data Collection**

**Intervention adherence.** The primary dependent variable was intervention adherence, defined as the percent of intervention steps implemented by a teacher each day. Intervention adherence included three components: (a) each step required to complete the social skills video-modeling lesson, (b) information regarding student engagement during the social skills video-modeling lesson, and (c) teacher’s daily data entry (permanent product), which occurred throughout each day. Essentially the teacher adherence checklist (see Appendix D) and the observer adherence checklist (see Appendix E) functioned as the intervention script in the form of a procedural checklist (Codding, Livanis, Pace, & Vaca, 2008). For each intervention step implemented, the teacher placed a checkmark next to that step. The checklists indicated completion of each component (steps required to complete the video-modeling lesson, student engagement, and data entry). Specifically, intervention Steps 1-6 involved the steps required to complete the social skills video-modeling lesson, Step 7 referred to student engagement, and Steps 8 through 10 included data entry as well as providing feedback to students as part of the student rating procedures. Permanent products were also collected in conjunction with
intervention steps as permanent product data has been shown to reduce reactivity to observational measurements (Noell et al., 1997). Specifically, permanent product data came from Step 8 (i.e., Enter student’s behavior rating data into the electronic system after every period) and Step 10 (i.e., Place this form in the school psychologist’s mailbox before you leave at the end of the day).

**Student outcomes.** Student social skills were measured using rating scales, which were managed through an electronic data entry system. Teachers rated students’ social skills each day for elementary students and each instructional period for middle and high school students, as they rotated through different classrooms. Ratings were based on a 0-3 scale, where 0 indicated a “really tough time” (student engaged in the social skill 0-25% of the time), 1 indicated a “tough time” (student engaged in the social skill 25-50% of the time), 2 indicated “so-so” (student engaged in the social skill 50-75% of the time), and 3 indicated “great” (student engaged in the social skill 75-100% of the time). Direct behavior ratings require a rater to quantify their perception of a directly observed behavior, which captures the collective strengths of systematic direct observation and behavior rating scales (Chafouleas, 2011). As elementary students remained with the same teacher throughout the day, teachers gave each student one rating per day. Because middle school and high school students attended classes with different teachers throughout the day, students were rated at the end of each class period and an average daily behavior rating was calculated at the end of each day by adding the ratings and dividing the sum by the number of class periods.

Weekly class-wide averages were obtained by summing each student’s weekly average and dividing it by the number of students in their homeroom classroom, where the social skills instruction occurred. This average rating permitted the examination of the progress of students
by homeroom, which allowed for the school team to identify classrooms that may be in need of additional and/or more intensive social skill instruction.

**Research Design**

A multiple-baseline design across teachers was utilized to determine if systematically increasing the level of performance feedback was associated with an increase in teachers’ intervention implementation adherence, and, subsequently an increase in students’ social skills ratings (Baer, Wolf, & Risley, 1968; Horner et al., 2005; Horner & Kratochwill, 2012). All teachers initially received universal procedures (i.e., explicit SWPBS training) and moved through the intervention phases based on their level of performance (Myers et al., 2011).

In the beginning of the study, teachers participated in an explicit SWPBS training (described below), which was essentially considered the core instructional practices at the universal level. From there, teachers moved through the MTSS framework in a bidirectional manner (see Appendix F and Table 1) through intervention phases based on their performance related to intervention adherence. Specifically, while receiving Performance Feedback Email (PFE) support, if a teacher’s intervention adherence was at 100% adherence for 10 consecutive data points, they moved to the maintenance phase. Once teachers had successfully implemented the intervention with 100% adherence during the maintenance phase for four weeks, performance feedback procedures were discontinued. Within PFE, if a teacher failed to achieve 100% adherence, for one session, they then received Performance Feedback Meeting (PFM) support (DiGennaro et al., 2005). Within the PFM support, if a teacher implemented the social skills video-modeling intervention with 100% adherence for three consecutive data points, they exited PFM and received PFE support. However, if a teacher failed to maintain 100% adherence, for one session, they began receiving Performance Feedback Meeting with
Administrator (PFMA) support. While receiving PFMA procedures, if the intervention was implemented with 100% adherence for one data point, they exited PFMA and received PFM procedures. However, if the teachers failed to maintain 100% adherence, for one session, they continued to receive PFMA support.

Table 1

Description of Levels of Support by Phase

<table>
<thead>
<tr>
<th>Phase</th>
<th>Teacher</th>
<th>Observer</th>
<th>Consultant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>NA</td>
<td>NA</td>
<td>Provide additional support in the classroom if needed and complete the Observer Adherence Checklist</td>
</tr>
<tr>
<td>Performance Feedback Email (PFE)</td>
<td>Implement intervention (daily) and complete Teacher Adherence Checklist</td>
<td>Conduct classroom observation (weekly) and complete the Observer Adherence Checklist</td>
<td>Provide weekly email (see Appendix G)</td>
</tr>
<tr>
<td>Performance Feedback Meeting (PFM)</td>
<td>Conduct classroom observation (twice a week) and complete the Observer Adherence Checklist</td>
<td>Facilitate a daily meeting (see Appendix H)</td>
<td></td>
</tr>
<tr>
<td>Performance Feedback Meeting with Administrator PFMA</td>
<td>Conduct classroom observation with administrator (daily) and complete the Observer Adherence Checklist</td>
<td>Facilitate a daily meeting with administrator present (see Appendix H)</td>
<td></td>
</tr>
<tr>
<td>Maintenance</td>
<td>Conduct classroom observation (every other week) and complete the Observer Adherence Checklist</td>
<td>Provide email every other week (see Appendix G)</td>
<td></td>
</tr>
</tbody>
</table>

Procedures

Teachers delivered the social skills video-modeling intervention while students were in their homeroom class. The intervention lasted approximately 15 min, and was implemented five days per week. Each day a different video was viewed. During the intervention, teachers
showed the video and facilitated the activity at the end of the video. Throughout the day, teachers electronically rated student performance.

**Consultant training.** Consultant training was facilitated by the primary researcher and occurred in a small group format with all seven consultants prior to the start of the study. The training focused on two components: (a) how to create performance feedback emails, which were provided during the maintenance and PFE phases (see Appendix G), and (b) how to facilitate face-to-face performance feedback meetings with teachers, which were provided during PFM and PFMA phases (see Appendix H). Consultant training continued until the consultants created both the performance feedback emails and facilitated the performance feedback meeting with 100% adherence on two consecutive role-play occasions without assistance from the primary researcher (Codding et al., 2005). The consultants were also provided with all necessary materials and checklists for implementing the variations of performance feedback. During the intervention, if the consultant continued to provide the performance feedback email and facilitate the performance feedback meetings with the teacher (when indicated) with 100% adherence, no additional training sessions were conducted. However, if a consultant’s adherence to the performance feedback procedures fell below 100% at any point, the primary researcher met with the consultant and provided additional training if necessary. This occurred on one occasion throughout the study during a performance feedback meeting with Teacher 4. During this meeting, the teacher offered her own solution to the barrier regarding a step not being completed; thus, the consultant did not initiate in the problem-solving step. Weekly consultation check-ins were held between the consultants and the primary researcher to address any questions.

**Observer training.** Graduate students in school psychology conducted observations during the social skills video-modeling intervention to monitor teacher implementation
adherence using the Observer Adherence Checklist (see Appendix E). These observations occurred at the appropriate frequency based on which level of tiered support the teacher was currently receiving (PFE – once per week; PFM – daily; PFMA – daily; maintenance – biweekly). The observer training was facilitated by the primary researcher prior to the start of the study in a small group setting. The primary researcher reviewed the definitions from the Observer Adherence Checklist to identify the occurrence and/or nonoccurrence of behavior. Observer training continued until each observer accurately scored role play activities with 100% accuracy on two consecutive role-play occasions without assistance from the primary researcher (Codding et al., 2005).

**Baseline (explicit training).** The explicit SWPBS training included two components. First, the administrators and primary researcher led an explicit training on the various steps of the intervention plan. Training began by pairing teachers with their respective consultants, who remained as dyads throughout the study. Consultants utilized this opportunity to build rapport and begin to support the teachers’ learning. During the explicit training, teachers became familiar with the intervention adherence checklist, along with definitions of each step as well as examples and non-examples of what would constitute completion. The presenters modeled the appropriate implementation of the intervention using a step-by-step demonstration. The training ended with guided and supported small group practice, as well as immediate affirmative and corrective feedback (Archer, & Hughes, 2011). Finally, teachers were provided with all necessary materials to implement the intervention independently in their classroom.

After the first component of the explicit training was completed, the consultants supported their respective teachers in the classroom until teachers attained two consecutive occasions of intervention implementation with 100% adherence (Codding et al., 2005) to
demonstrate mastery of the skill, which subsequently ruled-out the possibility of a skill deficit. Once this was achieved, the teacher began the PFE phase. However, if the teacher did not demonstrate 100% intervention adherence, their performance was potentially attributable to a skill deficit; thus, the teacher remained in the baseline phase and the consultant modeled the skill in the classroom setting and provided immediate feedback.

**Performance Feedback Email (PFE).** During this phase, teachers were required to implement the intervention independently in their classrooms. Teachers completed intervention adherence checklists (daily) and trained observers collected data on intervention adherence of the social skills video-modeling intervention (once per week). In accordance with performance feedback strategies, teachers received a weekly graph of their students’ performance (social skills), as well as their performance (intervention adherence) via email. The graph was accompanied by written praise, including a general positive opening statement, supportive feedback with data, mention of the implementation goal and their progress related to moving to the maintenance phase, and follow-up action (Hemmeter, 2011; See Appendix G). If intervention adherence data failed to meet 100% adherence, the teacher began receiving PFM support and a performance feedback meeting between the teacher and the consultant was scheduled and occurred within the next 24 hours.

**Performance Feedback Meeting (PFM).** During PFM support, teachers continued to complete the intervention adherence checklist (daily) and trained observers collected data on intervention adherence of the social skills video-modeling intervention (two times per week). During this phase, teachers received support via performance feedback meetings with the consultant. Feedback was provided during a performance feedback meeting which occurred within 24 hours of the social skills lesson in which 100% adherence was not attained. The
meeting included the following components: (a) daily graphic representation of teacher performance (adherence), (b) daily graphic representation of student performance (behavior ratings), (c) mention of the implementation goal (i.e., 100%) and their progress toward the goal, (d) identification of the specific intervention steps the teacher had missed the previous day and discussion of the importance of those steps, (e) discussion about how to improve implementation, (f) praise for the intervention steps that were accurately completed the previous day, and (g) scheduling the tentative feedback appointment for the next day if applicable (see Appendix H).

**Performance Feedback Meeting with Administrator (PFMA).** During this phase, teachers continued to complete the intervention adherence checklist (daily) and trained observers collected data on intervention adherence of the social skills video-modeling intervention (daily). The components of performance feedback involved in PFM continued; however, a negative reinforcement contingency was added (DiGennaro et al., 2005). Specifically, the principal and/or assistant principal attended both the daily classroom observations with the observer and the performance feedback meetings along with the consultant.

**Maintenance.** During the maintenance phase, teachers were observed once every two weeks. Teachers received a graph of their students’ performance every other week, as well as their performance on implementing the intervention via email. The role of the consultant during this phase was to check-in with the teacher to see if they felt they needed additional support. Intervention adherence data was collected to see if the effects of the intervention had been maintained. If intervention adherence was below 100%, teachers returned to receiving PFE support.
Inter-Observed Agreement

Inter-Observation Agreement (IOA) was collected on two behaviors: intervention steps implemented (teacher behavior) and performance feedback consultation steps implemented (consultant behavior). Percentage agreement was calculated as the number of instances of agreement divided by agreements plus disagreements, multiplied by 100%.

Teacher behavior. For teacher behavior (Table 2), the percentage of intervention steps completed by the teacher were measured via direct observation (Steps 1-7 and 9) and a review of permanent products (Steps 8 and 10 – completed by the primary researcher). To collect IOA on teacher behavior, the Teacher Adherence Checklist and the Observer Adherence Checklist were utilized.

Consultant behavior. For consultant behavior (Table 3), the percentage of intervention steps completed by the consultant were measured via permanent product review (i.e., performance feedback email [PFE]; audio recording of the performance feedback meeting [PFM and PFMA]). Consultants provided levels of support (PFE; PFM; and PFMA) by using a script. Corresponding checklists (i.e., Performance Feedback Email [Appendix G] and Performance Feedback Meeting [Appendix H]; Hemmeter et al., 2010) were utilized to calculate IOA.

Social Validity

Following the conclusion of the study, all seven teachers and two administrators (i.e., principal and assistant principal) evaluated the intervention components by completing a scale modified from Erhardt, Barnett, Lentz, Stollar, and Reifin (1996) and Martens, Witt, Elliot, & Darveauax, (1985; see Appendix I). Results were used to examine the acceptability of the intervention components. Responses to the questionnaires were scored on a 6-point scale, where 1 = Strongly Disagree, and 6 = Strongly Agree.
Results

Seven teachers participated in this study. Two teachers immediately met criteria to demonstrate mastery of implementation of the intervention during the baseline phase and subsequently implemented the intervention with 100% adherence with PFE supports; thus performance feedback was faded during the maintenance phase. One teacher achieved criteria to demonstrate mastery of implementation of the intervention during the baseline phase, but did not meet the expectation of 100% adherence with PFE practices; thus needed a more intensive level of intervention (PFM) prior to achieving 10 consecutive data points at 100% and within PFE practices and moving into the maintenance phase. Four teachers’ performance during the baseline phase demonstrated that they needed additional support prior to achieving mastery levels of implementation. Once they achieved mastery and began implementing the intervention without support from their respective consultants, their level of performance prior to reaching the maintenance phase varied; one achieved 10 consecutive data points with 100% adherence within 10 days of receiving of PFE supports, two needed PFM supports prior to returning to PFE supports and demonstrating 100% adherence; and one needed a mix of PFM and PFMA supports in addition to PFE practices to meet the goal of 100% adherence for 10 consecutive days.

Overview of the Data

The primary method for interpreting research outcomes was visual analysis, which includes examining the level, immediacy, variability, and trend of graphically-presented time series data. Teacher performance and student performance data are displayed in Figure 1 and Figure 2, respectively. For each video-modeling session, the number of steps implemented (Figure 1) and students’ social skills ratings by class average (Figure 2) are indicated. Solid lines denote phase changes for teacher support strategies. Tick marks indicate intervention procedures
(i.e., performance feedback email sent, performance feedback meeting with consultant held, or performance feedback meeting with consultant and administrator held) was provided depending on the corresponding level of intervention. Triangles represent days in which the classroom teacher was absent and the intervention was implemented by the teaching assistant. As implementing the intervention to 100% adherence was not the responsibility of the teaching assistant, these data points were ignored as they related to moving to a more intensive Tier of support as long as the classroom teacher’s absence was planned in advance. However, in the occurrence of an unplanned absence on a day a performance feedback meeting was scheduled, the teacher moved to a more intensive Tier as the school’s administrative team agreed that this should be conceptualized as “not attending” the performance feedback meeting.

Teacher Performance

Teacher 1. During baseline, Teacher 1 obtained two consecutive data points at 100% adherence after the first two days, which was the criterion needed to demonstrate mastery. As planned, Teacher 1 then began receiving PFE on day three. During this phase, the teacher continued to implement the intervention with 100% adherence and achieved the criterion of 10 consecutive data points, which placed the teacher in the maintenance phase on day 13. In the maintenance phase, the teacher continued to implement the intervention with 100% adherence for four consecutive weeks.

Teacher 2. During baseline, Teacher 2 obtained criterion needed to demonstrate mastery (i.e., two consecutive data points at 100% adherence after the first two days). Thus, Teacher 2 began receiving PFE on day three. During this phase, the teacher continued to implement the intervention with 100% adherence and achieved the criterion of 10 consecutive data points, which placed the teacher in the maintenance phase on day 13. The teacher remained in the
maintenance at 100% adherence for four consecutive data points, prior to going on maternity leave.

**Teacher 3.** During baseline, Teacher 3 obtained two consecutive data points at 100% adherence after the first two days, which was the criterion needed to demonstrate mastery. Subsequently, Teacher 3 began receiving PFE on day three. During this phase, the teacher implemented the intervention with 100% adherence for six consecutive data points. The teacher was absent on the ninth day, therefore, no data were collected. On the eleventh day, adherence fell to 90% (*missing step number 5; see Appendix D*); thus, on the next day, a more intensive level of support was provided (PFM). During this phase, the teacher implemented the intervention with 100% adherence and met the criterion of three consecutive data points on the third day of this phase. This transitioned the teacher back to receiving PFE rather than PFM. During this phase, the teacher continued to implement the intervention with 100% adherence and achieved the criterion of 10 consecutive data points, which placed the teacher in the maintenance phase on the 25th day. In the maintenance phase, the teacher continued to implement the intervention with 100% adherence for four consecutive weeks.

**Teacher 4.** During baseline, on the first day, Teacher 4 obtained 0% adherence; however, via consultant support within the classroom was able to achieve 100% adherence across the next two consecutive days. Therefore, Teacher 4 began receiving PFE on day four. On the first day in this phase, the teacher implemented the intervention with 90% adherence (*missing step number 8; see Appendix D*); thus, on the next day, a more intensive level of support was provided (PFM). During this phase, the teacher implemented the intervention with 100% adherence and achieved the criterion of three consecutive data points in three days, which transitioned the teacher back to PFE support. Teacher 4 continued to implement the intervention
with 100% adherence and achieved the criterion of 10 consecutive data points, which placed the teacher in the maintenance phase on the 18th day. In the maintenance phase, the teacher continued to implement the intervention with 100% adherence for four consecutive weeks.

**Teacher 5.** During baseline, due to the teacher’s performance on day one (i.e., 10% adherence \(missing\ \text{steps} \ 1-7, \ 9, \ 10\); see Appendix D), Teacher 5 required three days to achieve 100% adherence across two consecutive days. Therefore, Teacher 5 began receiving PFE support on day four. On the first day in this phase, the teacher implemented the intervention with 60% adherence \(missing\ \text{steps} \ 2, \ 3, \ 4, \ 8\); see Appendix D); thus, a more intensive level of support was provided (PFM). During PFM, the teacher obtained 100% adherence on the first data point. The teacher was absent for the second data point; however, the teaching assistant implemented the intervention and adherence fell to 80% \(missing\ \text{steps} \ 3, \ 8\). Because the classroom teacher was absent, this did not prompt movement to PFMA, rather, the teacher remained in the same phase (PFM) upon return. The following day, the teacher implemented the intervention with 100% adherence. This was the first of three consecutive data points at 100% adherence. After the three consecutive data points were obtained, the teacher was provided less intensive support (PFE). On the 11th day, adherence fell to 10% \(missing\ \text{steps} \ 1-7, \ 9, \ 10\); see Appendix D) and the teacher transitioned back to a more intensive level of support (PFM). However, the teacher did not attend the required meeting the next morning, which immediately resulted in a more intensive level of support (PFMA). On the 13th day, following this consultation meeting, the teacher implemented the intervention with 100% adherence, which transitioned her back to less intensive support (PFM). During this phase, the teacher implemented the intervention with 100% adherence and the criterion of three consecutive data points was achieved, transitioning back to PFE. The teacher continued to implement the
intervention with 100% adherence and achieved the criterion of 10 consecutive data points, which placed the teacher in the maintenance phase on the 27th day. In the maintenance phase, the teacher continued to implement the intervention with 100% adherence for four consecutive weeks.

**Teacher 6.** On the first day, Teacher 6 achieved 90% adherence (i.e., *missing step number 10;* see Appendix D) and required three days to achieve 100% adherence across two consecutive days. Thus, Teacher 6 began receiving PFE support (i.e., performance feedback email) on day four. On the fourth day in this phase, the teacher implemented the intervention with 0% adherence. Thus, Teacher 6 transitioned to a more intensive level of support (PFM). While in this phase, the teacher implemented the intervention with 100% adherence and the criterion of three consecutive data points was achieved, which transitioned the teacher back to PFE supports. The teacher continued to implement the intervention with 100% adherence and achieved the criterion of 10 consecutive data points, which placed the teacher in the maintenance phase on the 21st day. In the maintenance phase, the teacher continued to implement the intervention with 100% adherence for four consecutive weeks.

**Teacher 7.** During baseline, Teacher 7 required seven days to achieve 100% adherence across two consecutive days. On the first three days of the intervention, Teacher 7 achieved 90% adherence (i.e., *missing step 8;* see Appendix D). However, after receiving support from the consultant (in the classroom), achieved 100% adherence on the 4th day. The next day the teacher implemented the intervention with 10% adherence (*missing steps 1-7, 9, 10;* see Appendix D); thus, remained in the baseline phase and continued to receive support from the consultant within the classroom setting. Over the 6th and 7th day, Teacher 7 achieved 100% adherence, and met the criterion needed to demonstrate mastery. Therefore, Teacher 7 began
receiving PFE support (i.e., performance feedback email) the 8th day. Once the teacher began receiving PFE support the criterion of 10 consecutive data points was immediately maintained, which placed the teacher in the maintenance phase on the 18th day. In the maintenance phase the teacher continued to implement the intervention with 100% adherence for four consecutive weeks.

Upon further examination of the steps missed across teachers and phases (i.e., baseline, intervention, and maintenance), with the exception of two sessions (i.e., Teacher 3 [Step 5 – i.e., Facilitate the activity at the end of the video] and Teacher 5 [Steps 2, 3, and 4 – Turn on the chosen technology to show the video, load the DVD with the appropriate weekly skill to be practiced, and select the appropriate daily video]), steps pertaining to the social skills instruction within the classroom were implemented with 100% adherence. All other sessions with intervention implementation below 100% were due to teachers missing Step 8 (Enter student’s behavior rating data into the electronic system after every period; seven occurrences) and/or Step 10 (Place this form in the school psychologist’s mailbox before you leave at the end of the day; six occurrences).
Figure 1. Teacher Performance. Percentage of steps implemented according to the Teacher Adherence Checklist. Tick marks on the horizontal axes indicate performance feedback support was provided, the level of which was determined by the corresponding phase. Triangles indicate days that the classroom teacher was absent and the intervention was implemented by the teaching assistant.
Student Performance

A change in level of average classroom performance was not found when different levels of consultation support were provided for the teachers or when teachers’ intervention implementation reached and maintained 100% adherence (Figure 2). Specifically, from baseline to the intervention phases, the trend for the social skill class average rating was considered to generally remain stable across all classrooms. A moderate level of variability remained consistent during the introduction of performance feedback phases (i.e., PFE, PFM, and PFMA). For Classes 2, 4, 6, and 7, variability also remained moderate through the duration of the maintenance phase. However, for Classes 1, 3, and 5, toward the end of the maintenance phase, an increase in variability was observed.
Figure 2. Student Performance. Class averages of students’ social skills ratings corresponding to the classroom teacher’s level of support received.
Teacher Behavior

With one exception (i.e., Teacher 5 phase PFM [phase 2], due to an immediate shift to PFMA), IOA was calculated for at least 20% of observed baseline and intervention sessions. During the maintenance sessions, IOA was collected for at least 10% of the sessions in accordance observation procedures in this phase.

Table 2

*Teacher Behavior – IOA*

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Phase</th>
<th>Baseline</th>
<th>PFE</th>
<th>PFM</th>
<th>PFMA</th>
<th>Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>IOA</td>
<td>IOA%</td>
<td>IOA</td>
<td>IOA%</td>
<td>IOA</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>100%</td>
<td>100%</td>
<td>20%</td>
<td>100%</td>
<td>NA</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>100%</td>
<td>100%</td>
<td>20%</td>
<td>100%</td>
<td>NA</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>100%</td>
<td>100%</td>
<td>25%</td>
<td>95%</td>
<td>67%</td>
</tr>
<tr>
<td></td>
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<td>100%</td>
<td>100%</td>
<td>20%</td>
<td>100%</td>
<td>67%</td>
</tr>
<tr>
<td>4</td>
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<td>80%</td>
<td>100%</td>
<td>80%</td>
<td>67%</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>100%</td>
<td>50%</td>
<td>40%</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>100%</td>
<td>96%</td>
<td>50%</td>
<td>90%</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>100%</td>
<td>34%</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>100%</td>
<td>96%</td>
<td>20%</td>
<td>100%</td>
<td>67%</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>100%</td>
<td>94%</td>
<td>20%</td>
<td>100%</td>
<td>NA</td>
</tr>
</tbody>
</table>

(Phase) – Corresponds with the number of times the phase was entered by the teacher
(NA) – Teacher did not enter that level of support
(−) – No IOA data were collected

Consultant Behavior

Throughout all phases of performance feedback (i.e., PFE, PFM, PFMA, maintenance), IOA was collected on the consultants’ implementation of performance feedback procedures (see Table 3). During both the PFE and Maintenance phases, the performance feedback procedures were similar, yet varied within the frequency in which the teachers received the emails. Via a review of email composition from a script, during both of these phases, for all consultants, IOA
was calculated for 100% of occurrences and resulted in 100% adherence on all occasions. With respect to consultant behavior in the PFM phase, IOA was calculated on at least 34% of occasions via an audio recording of the meeting. IOA for consultants matched with Teacher 3, Teacher 5, and Teacher 6 reached 100% on all occasions. IOA for the consultant matched with Teacher 4 was 86% due to one missed component (i.e., Discussion about how to improve implementation of missed steps) as the teacher had concluded how to implement the missed step independently. One consultant (paired with Teacher 5) implemented performance feedback procedures in the PFMA phase. IOA was calculated for 100% of occurrences, via a review of the audio recording, and resulted in 100% adherence.

Table 3

**Consultant Behavior – IOA**

<table>
<thead>
<tr>
<th>Consultant</th>
<th>Phase</th>
<th>PFE</th>
<th>PFM</th>
<th>PFMA</th>
<th>Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>IOA</td>
<td>IOA%</td>
<td>IOA</td>
<td>IOA%</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>100%</td>
<td>100%</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>100%</td>
<td>100%</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>100%</td>
<td>100%</td>
<td>34%</td>
<td>100%</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>100%</td>
<td>100%</td>
<td>34%</td>
<td>86%</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>100%</td>
<td>100%</td>
<td>50%</td>
<td>100%</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>100%</td>
<td>100%</td>
<td>NA*</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>100%</td>
<td>100%</td>
<td>67%</td>
<td>100%</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>100%</td>
<td>100%</td>
<td>34%</td>
<td>100%</td>
</tr>
<tr>
<td>2</td>
<td>100%</td>
<td>34%</td>
<td>100%</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>100%</td>
<td>100%</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

(Phase) – Corresponds with the number of times the phase was entered by the teacher

(NA) – Consultant did not provide that level of support

(NA*) – Teacher was absent, thus the meeting did not occur

(−) – No IOA data were collected
Social Validity

**Teachers.** In general, six of the seven teachers rated the intervention as acceptable (Table 4). Specifically, the means of the teachers’ ratings indicated that they agreed (a) this would be an acceptable ($M = 4.71$, range = 2 to 6) and reasonable ($M = 4.57$, range = 1 to 6) intervention for supporting staff implementation of an intervention, (b) most individuals would find this intervention appropriate to support staff implementing an intervention ($M = 4.57$, range = 1 to 6), (c) this intervention should prove to be effective in increasing the likelihood of the intervention being implemented ($M = 4.71$, range = 2 to 6), (d) most staff would need this level of support to implement this intervention because the students’ needs in this setting are significant ($M = 5.14$, range = 4 to 6), (e) this intervention would be appropriate for a variety of staff ($M = 4.71$, range = 1 to 6), (f) this intervention was a fair way to support staff ($M = 4.57$, range = 1 to 6), and (g) overall, this model to support staff is beneficial for a school ($M = 4.71$, range = 1 to 6). In addition, they endorsed “Agree” reflecting that they would be willing to receive this kind of support when implementing an intervention ($M = 4.57$, range = 1 to 6) and would suggest this intervention to other staff ($M = 4.57$, range = 1 to 6).

With respect to other items on the social validity rating scale, teachers reported that they slightly agreed that (a) most staff would find the intervention suitable for supporting them in implementing an intervention for their students ($M = 4.43$, range = 1 to 6), (b) this intervention would not result in negative side effects for the students or staff ($M = 3.85$, range = 1 to 6), (c) the level of support in this intervention is consistent with those they have used in the school setting ($M = 4.29$, range = 1 to 6) and (d) this intervention was a good method for supporting staff member’s implementation of an intervention ($M = 4.43$, range = 1 to 6). Finally,
collectively, teachers slightly agreed that they liked the procedures used in the intervention to support staff ($M = 4.29$, range = 1 to 6).

Ratings provided by Teacher 5 (the only teacher whom required PFMA support) were in the *Strongly Disagree* to *Disagree* range, suggesting that this teacher did not view the intervention to be acceptable. However, ratings from all other teachers (with the exception of two ratings [i.e., Teacher 2 and Teacher 4’s ratings in the *Slightly Disagree* range “This intervention would *not* result in negative side effects for the students or staff”]) fell in the *Slightly Agree, Agree, or Strongly Agree* ranges.

**Administrators.** Overall, the administrators (i.e., principal and assistant principal) rated the intervention as acceptable (Table 4). Specifically, their ratings ranged from *Slightly Agree* to *Strongly Agree* across all items on the rating scale.

Table 4

*Social Validity Rating Scale*

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree (1)</th>
<th>Disagree (2)</th>
<th>Disagree Slightly (3)</th>
<th>Slightly Agree (4)</th>
<th>Agree (5)</th>
<th>Strongly Agree (6)</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>This would be an acceptable intervention for supporting staff implementation of an intervention.</td>
<td>T:5</td>
<td>T:23467</td>
<td>T:1</td>
<td>A:12</td>
<td>A:6</td>
<td>T:4.71</td>
</tr>
<tr>
<td>2.</td>
<td>Most individuals would find this intervention appropriate to support staff implementing an intervention.</td>
<td>T:5</td>
<td>T:23467</td>
<td>T:1</td>
<td>A:12</td>
<td>A:5</td>
<td>T:4.57</td>
</tr>
<tr>
<td>3.</td>
<td>This intervention should prove to be effective in increasing the likelihood of the intervention being implemented.</td>
<td>T:5</td>
<td>T:7</td>
<td>T:234</td>
<td>A:1</td>
<td>A:2</td>
<td>A:5.5</td>
</tr>
<tr>
<td>4.</td>
<td>I would suggest this intervention to another staff.</td>
<td>T:5</td>
<td>T:23467</td>
<td>T:1</td>
<td>A:12</td>
<td>A:5.5</td>
<td>T:4.57</td>
</tr>
<tr>
<td>5.</td>
<td>Most staff would need this level of support to implement this intervention because the students’ needs in this setting are significant.</td>
<td>T:6</td>
<td>T:1235</td>
<td>T:47</td>
<td>A:1</td>
<td>A:2</td>
<td>A:5.5</td>
</tr>
<tr>
<td>6.</td>
<td>Most staff would find the intervention suitable for supporting them in implementing an intervention for their students.</td>
<td>T:5</td>
<td>T:6</td>
<td>T:1234</td>
<td>T:7</td>
<td>A:1</td>
<td>A:4.5</td>
</tr>
</tbody>
</table>
7. I would be willing to receive this kind of support when implementing an intervention.

8. This intervention would *not* result in negative side effects for the students or staff.

9. This intervention would be appropriate for a variety of staff.

10. The level of support in this intervention is consistent with those I have used in the school setting.

11. The intervention was a fair way to support staff.

12. This intervention was reasonable for supporting staff.

13. I liked the procedures used in the intervention to support staff.

14. This intervention was a good method for supporting staff member’s implementation of an intervention.

15. Overall, this model to support staff is beneficial for a school.

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Note. (T) = Teacher; (A) = Administrator (1-Principal; 2-Assistant Principal)

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Discussion

This study was conducted to explore teachers’ performance related to a response-dependent approach (i.e., providing teachers with varying intensities of performance feedback procedures which matched their level of need) of performance feedback. In addition, students’ patterns of response to high levels of intervention implementation of a class-wide, social skills video-modeling intervention, which was replicated across seven classrooms. The primary goals of this study were to examine (a) if teachers who did not adequately respond to core instructional professional development on the intervention strategy would increase their intervention adherence once provided with a continuum of performance feedback that varied in intensity based on their specific level of need and (b) if high levels of adherence would be associated with improved students’ outcomes. With respect to teachers’ intervention adherence, an explicit training was provided, which was followed by performance feedback procedures in a systematic
staggered fashion across teachers. In general, results indicate that this model of supports assisted teachers in achieving and maintaining 100% implementation of the intervention. However, high levels of adherence were not associated with changes in student behavior.

**Practical Implications**

The results of utilizing performance feedback to both increase intervention adherence and maintain high levels of implementation were commensurate with previous research (Hemmeter et al., 2011; Myers et al., 2011; Noell et al., 1997; Sanetti et al., 2013; Simonsen et al., 2010; Witt et al., 1997). Providing ongoing consultation support with performance feedback has been demonstrated to produce superior desired outcomes as compared to professional development models that mirror the “train and hope” approach (Stokes & Baer, 1977). Within the model employed by this study, a negative reinforcement contingency included in PFMA supports demonstrated positive effects related to an immediate increase in intervention implementation. In addition to the direct effects of implementing a negative reinforcement contingency as seen within the data gathered for Teacher 5, it is plausible that simply teachers’ awareness that a performance feedback meeting with an administrator was a possible consequence of low adherence, improved their intervention adherence throughout all phases of the intervention, as similarly demonstrated by previous research (DiGennaro et al., 2005; Noell et al., 1997; Noell et al., 2000). Teachers may have been avoiding a perceived negative evaluation by consultants, administrators, and/or the loss of time available within their day for the meeting.

The model of performance feedback employed within this study was designed via a review of previous research and areas highlighted for future direction. This study included unique elements to improve efficiency and effectiveness of the intervention (i.e., the use of a response-dependent approach and technology). Specifically, rather than the use of a “standard
package” for teachers, this study utilized a response-dependent approach. The majority of research examining the effects of performance feedback within a school setting primarily delivered a “standard package” of practices (a) when teachers’ levels of intervention adherence were low and stable (Noell et al., 1997; Sanetti et al., 2013), (b) when teachers’ levels of intervention adherence were low and stable or trending downward (Noell et al., 2000), (c) if a teacher was assigned to the performance feedback condition (Noell et al., 2005), or (d) immediately following an intensive training (Simonsen et al., 2010). As the purpose of these studies was to examine the utility of performance feedback within the school setting, the full package of supports was provided immediately following entrance into the performance feedback phase and/or condition, which was often subsequently thinned based on teacher performance. Because performance feedback was consistently demonstrated as an effective method to increase and maintain teacher intervention adherence, other researchers manipulated the key components within performance feedback practices (e.g., added a negative reinforcement contingency, utilized technology, or determined intensity of support needed based on the level of teachers’ need) to examine alternative, and possibly more sustainable and efficient models (DiGennaro et al., 2005; Myers et al., 2010).

Myers and colleagues (2011) applied a multi-tiered intervention approach to teacher behavior. Their results supported the idea that the same level of professional development may not be appropriate or necessary for all teachers. Likewise, the response-dependent approach examined in this study offers an alternative and perhaps, more sustainable method as compared to the “standard package” of performance feedback. Specifically, within this study, following an explicit training, teachers received the least intrusive level of support unless otherwise warranted which was demonstrated as an effective and acceptable procedure, which may represent a
feasible option for implementation within school settings. In addition, this methodology may offer one way for administers to provide a model of teacher training that contains a balance of supportive and evaluative features.

According to previous research, the duration of time spent in performance feedback meetings has ranged from three to five minutes (Noell et al., 1997; 2000) to 30 minutes (Noell et al., 2005) per session. Within this study, performance feedback meetings with and without an administrator lasted approximately 3-5 minutes. In addition, the use of technology (i.e., performance feedback emails) streamlined the feedback process and provided teachers with information regarding their performance which was understandable, yet time efficient and resulted in desirable effects. Providing performance feedback via writing (DiGennaro et al., 2005), email (Hemmeter et al., 2011), and according to teachers’ preference (e.g., written, verbal, or email; Simonsen et al., 2010) have also been found to improve efficiency. As teachers and administrators continue to be held more accountable with regard to implementing evidence-based interventions that lead to improved child outcomes, the sustainability, feasibility, and acceptably of methods utilized to achieve these goals remains paramount. Incorporating technology into other aspects of performance feedback delivery may provide additional insight on various ways to allow for increased feasibility and sustainably of implementation in schools as well as increased immediacy of feedback to teachers.

Much of the previous research provided guidelines related to decision rules, which have generally focused on when to begin providing the “standard package” and/or when to fade this package (Noell et al., 1997; 2000; 2005). Myers and colleagues (2011) expanded the literature by using explicit decision rules to also determine the intensity of supports needed. The current study further develops the research in this area by using decision rules to guide not only when
performance feedback procedures are necessary and when fading strategies may be initiated, but also to identify the intensity of support that may be needed to facilitate behavior change. Using decision rules in this regard could aid in the identification of the appropriate amount of resources necessary for behavior change, which may contribute to the practicality of sustainable performance feedback interventions within the school setting. Further, the current study adds to previous research that has established high levels of intervention adherence may be maintained when using decision rules to systematically fade performance feedback procedures (DiGennaro et al., 2005; Hemmeter et al., 2011; Noell et al., 2000; 2005). Finally, because all teachers within the school participated, this sample included teachers who may or may not have been motivated to partake in the study, which may have influenced teachers’ behavior. In school settings, teachers generally do not have much choice whether or not to participate in school wide initiatives and/or professional development trainings. Thus, this study extends research in this area as the implementation of performance feedback procedures mimicked a typical professional development experience as all teachers within the school setting were targeted. This allows for responsiveness to be measured across all staff members in a schoolwide manner, which was recommended for future research by Myers and colleagues (2011).

Finally, because all teachers within the school participated, this sample included teachers who may or may not have been motivated to partake in the study, which may have influenced teachers’ behavior. In school settings, teachers generally do not have much choice whether or not to participate in school wide initiatives and/or professional development trainings. Thus, this study extends research in this area as the implementation of performance feedback procedures mimicked a typical professional development experience as all teachers within the school setting were targeted. This allows for responsiveness to be measured across all staff members in a
schoolwide manner, which was recommended for future research by Myers and colleagues (2011).

**Future Research**

While some previous studies have shown promising results related to the relationship between increasing teachers’ intervention adherence to high levels and student behavioral outcomes (Noell et al., 2005), others have demonstrated mixed results (DiGennaro et al., 2005; Hemmeter et al., 2011). In the current study, improvement in students’ performance was not demonstrated when different levels of consultation support were provided to teachers or when teachers’ intervention implementation reached and maintained 100% adherence. There are several factors within the current study which may have contributed to the lack of demonstrated improvements in student outcomes. Specifically, prior to this study, the social skills video-modeling intervention was being implemented (with varying degrees of adherence) across classrooms. Thus, given that the intervention was already being implemented to some degree and that the majority of steps missed by teachers were related to clerical steps (e.g., Enter student’s behavior rating data into the electronic system after every period; Place this form in the school psychologist’s mailbox before you leave at the end of the day) rather than key components of delivering the intervention indicated that the intervention dosage may not have changed to a significant degree across baseline and intervention phases.

Another factor was directly related to the measurement of student behaviors. Specifically, the measure of student performance was a global impression of how the student was doing, which may not have been sensitive enough to observe changes in students’ behavior. In addition, for each student, a rating from each period (nine) were averaged and then consolidated to class-wide averages, which again, may not reflect changes in individual students’
performance. Future research should continue to examine the relationship between teachers’ intervention adherence and student outcomes at both the individual and class-wide levels depending on the intervention being provided. It may be advantageous to continue to examine the impact of performance feedback on intervention dosage and intensity. In addition, although some of the results have been mixed, direct observation of student behaviors (Myers et al., 2011; Noell et al., 2005; Simonsen et al., 2010) may be a more explicit way to measure student outcomes. However, it must also be taken into consideration that direct observation of students’ behaviors may increase teacher reactivity and interfere with measurements of teachers’ intervention implementation in response to performance feedback procedures.

The format and intensity of teacher trainings occurring prior to performance feedback procedures have varied across previous research studies. More intensive teacher trainings have generally been conducted prior to the implementation of performance feedback procedures (Noell et al., 1997; Sanetti et al., 2013), in which some have lasted up to three 30-60 minute sessions (Simonsen et al., 2010). Thus, within the current study, as an element within the baseline phase, prior to teachers receiving consultant support in the classroom, the administrators and primary researcher lead a 45-minute explicit training. Although it is possible that the training program alone was enough to support two teachers’ implementation of the intervention to high levels of adherence (Teacher 1 and Teacher 2) and may have played a crucial role in the subsequent effectiveness of performance feedback on the other five teachers’ performance, much less intensive teacher trainings have also shown promise when delivered prior to performance feedback (DiGennaro et al., 2005; Hemmeter et al., 2011; Noell et al., 2000). For example, DiGennaro and colleagues (2005) conducted the initial training in the teachers’ respective classroom, which included didactic instruction, modeling, coaching and immediate corrective
feedback. Noell and colleagues (2000) utilized an even less intensive training by holding a very brief meeting with the teacher prior to implementation of an in-class training (i.e., the consultant was present during implementation to give reminders when necessary). The brief training consisted of discussing the intervention, providing the teacher with all necessary materials, as well as the teacher verbally committing to implement the intervention. As high levels of intervention adherence have been obtained following brief, in vivo, and intensive teacher training, all of which were followed by performance feedback procedures, future research should continue to examine the most efficacious training procedures when performance feedback support is successively provided.

As previously demonstrated, teachers spending time with a consultant (Noell et al., 1997) and/or viewing the consultation process as acceptable (Noell et al., 2005) were not individually enough to warrant corresponding changes in teacher behavior. This research highlights the importance of the consultation process and procedures. To replicate and expand on previous research that has provided explicit consultation procedures (i.e., performance feedback), the current study utilized procedural scripts and checklists to ensure the occurrence of effective practices during consultation (e.g., PFE, PFM, and PFMA) were implemented as intended (DiGennaro et al., 2005; Hemmeter et al., 2011; Noell et al., 1997; 2000). Further, these tools were utilized to examine consultants’ implementation of the performance feedback procedures. Future research should continue to examine key components of consultant behavior as well as monitor the implementation of those behaviors.

Limitations

Several limitations should be noted and can be addressed in future research. First, the Teacher Adherence Checklist, which examined the percentage of steps implemented, did not
have corresponding permanent products for all steps. As demonstrated by previous research (Noell et al., 1997; 2000), permanent products are a practical strategy to monitor behaviors by limiting the reactivity to the measurement, which may occur with direct observations of behaviors. Thus, it is possible that when the observer was not present, the teacher may have indicated that intervention steps as completed on the Teacher Adherence Checklist that were not. However, within the current study, teachers were unaware of when an observer would be present so the likelihood of this possibility is minimal. In future research, it would be advantageous to incorporate permanent products that correspond with each step on the Treatment Adherence Checklist to further reduce this possibility. The Teacher Adherence Checklist also contained a wide range of skills. For example, the 10 steps were diverse with respect to various factors (e.g., teachers’ learning histories, previous experience and familiarity with using technology, level of difficulty of the task; amount of time required to complete the step). Thus, future research should continue to examine the impact of performance feedback as it relates to various features of tasks. It is plausible that, for completion of some tasks to occur, minimal levels of support may be sufficient, whereas for completion of more unfamiliar, difficult, or time consuming tasks, more intensive levels of support may be required to increase and maintain completion.

Second, prior to, during, and following this study, the teachers also rated student behaviors associated with the Schoolwide Positive Behavior Support (SWPBS) behavioral expectations using ratings based on the same 0-3 scale that was used to rate students’ social skills. Thus, there was no additional training provided related to the degree of agreement among raters (e.g., inter-rater reliability). This may have contributed to the lack of demonstration of improved student outcomes corresponding with teachers reaching high levels of intervention
adherence, particularly within the middle and high school classrooms as students were rated by multiple teachers across all nine periods of the day.

Third, this study was implemented by the primary researcher and graduate students who served as consultants and observers. Although this framework is beneficial as the implementers (outside consultants) did not hold administrative authority over the teachers (Noell et al., 1997; 2000; 2005), it is also valuable to continue to examine the practicality of school personnel (e.g., inside consultants, school psychologists, teachers; Sanetti et al., 2013) serving as implementers as our ultimate goal of research is to allow for replication of procedures and results in applied settings.

Fourth, this study took place in an alternative setting, and six out of seven participating teachers were trained as intervention specialists. Thus, the participants in this study may not the general education population or “typical” teachers. Thus, the generalization of the study results beyond the study sample, without further replication is inappropriate.

Also, while in the PFE and maintenance phases, the components of performance feedback were provided via email. However, it was not examined if the email was opened, read and/or reviewed carefully. Thus, it is possible that the impact of these supports may have been less than desired. One mechanism to decrease the impact of this barrier of intervention delivery is to ask teachers to reply to the email that contained performance feedback support (Hemmeter et al., 2011).

Next, this study was conducted in a school that was not teaching behavioral expectations and implementing school-wide positive behavior support at a universal level with adherence according to the school’s summary score. Even though the school’s summary score was not at or above 80%, it was determined that the aims of the current study aligned with the school’s goals.
related to improving their school-wide practices particularly regarding gathering information to monitor student behavior and building supports to facilitate school-wide procedures. Although a score at or above 80% would be ideal as a prerequisite for applying an MTSS framework to professional development for teachers, this study was implemented prior to the school obtaining that foundation.

**Conclusion**

In summary, the results of the present study suggest that teachers’ intervention adherence can be increased to high levels and maintained following an explicit training and subsequent performance feedback procedures. This study employed a response-dependent approach, based on teacher performance (intervention adherence), which was guided by explicit decision rules to determine the intensity performance feedback procedures (i.e., performance feedback email, performance feedback meeting, performance feedback meeting with an administrator) warranted by each teacher. Following these procedures, all seven teachers obtained and maintained high levels of intervention adherence regarding the implementation of a class-wide social skills video-modeling intervention. Although corresponding improvements in students’ social skills were not observed as measured by classroom daily averages, within this study, there are several confounding factors. Thus, it is recommended that future research examine more explicit methods to examine students’ social skills. Ultimately, this study demonstrated an effective and feasible model of performance feedback to increase teachers’ intervention adherence to high levels which were maintained following progressive thinning of the procedures. This method was viewed as generally acceptable to teachers and very acceptable to administrators.
References


Methods used to document procedural fidelity in school-based intervention research.  


Stormont, M., Reinke, W., & Herman, K. (2011). Teachers’ knowledge of evidence-based interventions and available school resources for children with emotional and behavioral

Schools, 50(2), 134-150.


Appendix A
Targeted Social Skills

SOCIAL SKILLS PROGRAM

EACH DAY:
- Show video
- Complete activity (at end of video)
- Try to “catch” students demonstrating the skill throughout the week
- Reward students for demonstrating the skill
- Remind students what their body language should look like for each skill

SOCIAL SKILLS

STOP AND THINK: GOOD CHOICE? BAD CHOICE?
Objective: Student will demonstrate understanding/use of “stopping” mechanisms and generate alternative choices and their consequences.
Stop: Take a deep breath, count backwards/smile, walk away/sing a song, ask for help/hug myself, know that I can choose
Think: Think about the best choice(s) to make

LISTEN TO OTHERS
Objective: Students learn to exhibit the verbal and nonverbal behaviors that indicate active listening and comprehension of the message or lesson.
Definition: Listening means to pay attention. To listen to others, it is important to use your eyes to look at the speaker, move your body so the speaker can see you, sit quietly, use your ears to hear the speaker, and respond (make eye contact, nod, answer) to show that you understand the speaker.

FOLLOW THE STEPS
Objective: The student will follow the steps. Specifically, the student will be able to follow the steps/directions that are provided verbally by an adult. The student will also focus on listening to be able to follow the steps.
Definition: Steps/directions are things that help you or show you how to do something. Following the steps involves listening to the person giving the directions, asking about anything that seems confusing, writing the steps in a list or remembering what must be done, and then doing the task and checking that all parts of the directions were completed.

FOLLOW THE RULES
Objective: The student will follow classroom rules. Specifically, the student will be able to exhibit the nonverbal behaviors that indicate active listening or attending to written rules, followed by verbal or motor behavior that indicates comprehension of and compliance with the rules.
Definition: A rule is an understood procedure. Students who follow the rules know of a rule, check that they understand how to follow the rule, think about how to follow the rule and know where and in what situation the rule applies, show that they want to follow the rule, and do the right thing by following the rule.
IGNORE DISTRACTIONS/ PAY ATTENTION TO YOUR WORK

Objective: The student will ignore distractions from peers when doing class work. The student will focus on skills to be able to pay attention.

Definition: Distractions are things that keep you from concentrating on your class work and cause you not to do your best work. To ignore distractions and pay attention to your work, you need to find what’s causing the distraction, count to five, politely ask the person to stop bothering you, concentrate on the task and ignore or don’t look at what’s bothering you, and use self-talk to help you pay attention to your work.

ASK FOR HELP

Objective: The student will ask for help from an adult or peer. Specifically, the student will be able to exhibit the verbal and nonverbal behaviors that facilitate getting a person’s attention and then requesting their help or assistance. The student will focus on skills learned in “following the steps” to ask for clarification or help when necessary.

Definition: The skill asking for help involves asking yourself whether you need help, knowing what the problem is that you need help solving, finding someone who can help you, asking for help nicely, and saying “thank you” to the person who helped you.

TAKE TURNS WHEN YOU TALK

Objective: The student will take turns in conversations with peers and adults. Specifically, the student will be able to focus on skills learned in “listen to others,” because students cannot take turns in conversations unless they listen to what others are saying.

Definition: The skill taking turns when you talk involves listening to what the speaker says, showing the speaker you are listening (e.g., make good eye contact), talking when it’s your turn, waiting for the other person to talk or take a turn, and repeating the steps.

GET ALONG WITH OTHERS

Objective: The student cooperates with peers and gets along with others. Specifically, the student will be able to exhibit verbal and nonverbal behaviors that indicate positive interactions with peers during structured and unstructured classroom activities. The student will focus on skills learned in previous units to aid in getting along with others.

Definition: Getting along with others means being nice to the people around us. It involves finding what you can do to get along with others, telling someone you want to get along or help, showing that you want to get along by being nice, and doing things such as smiling.

STAY CALM WITH OTHERS

Objective: The student will control his or her temper in conflict situations with peers. Specifically, the student will identify persons and situations that make him or her angry and use anger-reduction strategies taught in this unit. The student will focus on skills learned in previous units to be able to stay calm with others.

Definition: Staying calm means that even if you get mad or frustrated about something, you try not to lose your temper. It involves identifying how you feel when you are mad, stopping and counting to 10, finding what is making you mad, thinking about things that make you less mad and what your choices are, talking with someone to make you feel better, and doing something that makes you feel better by acting out your best choice.
BE RESPONSIBLE FOR YOUR BEHAVIOR/ DO THE RIGHT THING

Objective: The student will act responsibly with others, at school, at home, and in the community. The student will focus on skills learned in previous units to be able to do the right thing.

Definition: Responsibility means you do things that you should do without someone telling you, and you are able to make important decisions. Being responsible for your behavior involves thinking about what is the right thing for you to do, asking what happens if you don’t do the right thing, finding examples of doing the right thing, talking with others about what the right thing is to do, and doing the right thing.

DO NICE THINGS FOR OTHERS

Objective: The student will do nice things for others in a variety of situations. The student will focus on skills learned in previous units to aid in doing nice things for others.

Definition: Doing nice things means we do good and helpful things because we care about other people. Doing nice things for others involves thinking about how you feel when you are sad or hurt, finding what is making someone else feel sad or hurt, thinking about things that make you feel better and how it feels when someone does something nice for you, talking with the person who feels sad or hurt, and doing someone nice for the person (e.g., compliment, help, listen, share).

(Adapted from Elliot & Gresham, 2007 and McGinnis & Goldstein, 2007)
LISTEN TO OTHERS

General Information:

Goal: Students learn to exhibit the behaviors that show active listening and understanding of the message or lesson.

Definition of Listening to Others: Listening means to pay attention. To listen to others, it is important to use your eyes to look at the speaker, move your body so the speaker can see you, sit quietly, use your ears to hear the speaker, and respond (make eye contact, nod, answer) to show that you understand the speaker.

Example Situations (you can use these to create your own):
- Your teacher asks you to retry a task
- Your classmate introduces themselves to the class
- Your teacher asks for some volunteers
- A peer tells you about their weekend

Tips:
- Some students are really sold if you tell them they can watch the video afterwards
- When recording the audio, be sure the student is speaking loud and clear, if a mistake is made, but seems it could be (cut out), don’t worry about it
- When recording the video, it is best to stand still, minimize moving the camera
- Be sure that only students with signed permission forms are in the videos
- Apple products only, please

At the end of this activity, you will create:
- 1. Audio of the individual providing the social opportunity [use Voice Memo]
- 2. Video of Role Play (MUST include a stop and think POSE) [use Camera]
- 3. Audio of what would have been said during stop and think (MUST be the student’s voice who did the stop and think pose) [use Voice Memo]
- 4. Audio of praise from an adult. MUST be the same voice as the individual providing the social opportunity. [use Voice Memo]

Here we go:

- 1. Audio of the individual providing the social opportunity (the person who enters the situation) [use Voice Memo].

Please write the social opportunity begins your situation here:
2. Video of Role Play (MUST include a stop and think POSE) [use Camera].

- The person listening is looking at the speaker
- The person listening moves their body so the speaker can see them
- The person listening is quiet
- The person listening uses their ears to hear the speaker
- The person listening responds by making eye contact, nod, answer to show they understand the speaker.

You can write out the script to your actions here if you would like:

3. Audio of what would have been said during stop and think (MUST be the student’s voice who did the stop and think pose) [use Voice Memo].

Say, “I can tell that someone is talking to me, so I need to show them that I am listening by looking at the person talking, being quiet, using my ears to hear them, and making eye contact. After I hear what they have to say, I will make sure I respond so that they know I was listening.”

(*Make sure the student who did the Stop and Think pose in the video is the one that reads/says this) Try not to modify the steps, although students can use their own lingo. If you revise it, here is some extra space for you to re-write the self-talk, it is easier for some students to read it.
☐ 4. Audio of praise from an adult. MUST be the same voice as the individual providing the social opportunity, unless that was a peer. [use Voice Memo].

Say, “You did a good job showing that you were listening by looking at the person talking, being quiet, using your ears to hear them, and making eye contact. When they were done talking, you responded in the right way. Good Job!”
Appendix C
Complete Video-modeling Script

Get Along with Others: (1) Find (2) Tell (3) Show (4) Do

- Classroom #1
  - Situation: Student sees peer get awarded bonus points (or notices that they have a lot of bonus point written on the board) and decides to congratulate him/her for doing well.
    - The above situation happens; student: [looks, self-talk, congratulate peer (say in nice way, smile)]
      - “I see he/she just got awarded more bonus points. That means he/she must have been doing the right thing. I know that’s hard to do sometimes, so I’m going to congratulate them.”
    - Teacher: “You found a great way to get along with your peer. You complimented them for doing the right thing and getting bonus points. I could tell you were being genuine because you smiled and said it in a nice way. Good job!”

- Classroom #2
  - Situation: Student sees peer “acting out” and decides to remind them that “elementary/middle/high school kids don’t act that way” and gives him/her a suggestion of something else to do (e.g., go chill, take a walk, etc.).
    - The above situation happens; student: [looks, self-talk, walk over to peer and say you want to help, give him/her a suggestion to calm down (say in nice way, smile)]
      - “He/she seems really worked up. I would like to help him/her calm down, so I’ll go over and say I want to help. I know a few things that help me calm down, so I’ll give him/her some suggestions.”
    - Teacher: “You found a great way to get along with your peer. When you noticed he was worked up, you let him know you wanted to help. You gave him a suggestion for how to calm down. You said it in a nice way and I bet your friend appreciated your help! Good job!”

- Hallway
  - Situation: Student notices a peer left their hoodie behind in the hallway and decides to approach the peer to let them know.
    - The above situation happens; student: [looks, self-talk, walk over to peer and let him know he left/dropped his hoodie (say in nice way, smile)]
      - “He left his hoodie behind! If that happened to me, I would want someone to help by giving my hoodie back to me. I’ll bring his hoodie over to him.”
    - Teacher: “You found a great way to get along with your peer. When you saw that he left his jacket behind, you let him know and gave it back to him. That was a very thoughtful thing to do. Great job!”
• **Lunch**
  - Situation: Student notices a peer who seems isolated from the others during lunch and decides to approach the peer to invite him/her to eat with them.
    - The above situation happens; student: [looks, self-talk, go over to peer and say you want to see if they’re OK, ask him if he wants to come sit by you (say in nice way, smile)]
      - “I see that he looks lonely over there. If I was sitting by myself or feeling lonely, I would want someone to see if I was OK. I’ll go over and see if he wants to sit with me.”
    - Teacher: “You found a great way to get along with your peer. When you noticed that he was sitting by himself, you let him know you wanted to see if he was OK. You asked him to sit with you. That was a very nice thing for you to do and you probably made him feel better. Good job!”

• **Gym**
  - Situation: Students are getting ready to play a game and they need to work together to be successful (let students pick game).
    - The above situation happens; student: [gets ready to play game, self-talk, say you want to work together to do well in the game (say in nice way, smile), play game]
      - “To play this game, I know we need to get along. I’ll let him know that we need to work together. Then, we will do really well in this game!”
    - Teacher: “You did a wonderful job getting along with your peer during the game. You let him know that you wanted to work together. You played the game nicely with each other. Good job!”
## Appendix D
Teacher Adherence Checklist

### Teacher Adherence Checklist

**Teacher:**

**Date:**

<table>
<thead>
<tr>
<th>Intervention Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ 1. Verbally prompt students that it is time for social skills.</td>
</tr>
<tr>
<td>☐ 2. Turn on chosen technology to show the video.</td>
</tr>
<tr>
<td>☐ 3. Load the DVD with the appropriate weekly skill to be practiced.</td>
</tr>
<tr>
<td>☐ 4. Select the appropriate daily video (Monday, Tuesday, Wednesday, Thursday, Friday).</td>
</tr>
<tr>
<td>☐ 5. Facilitate the activity at the end of the video.</td>
</tr>
<tr>
<td>☐ 6. Provide verbal praise to students for completing the activity at the end of the video.</td>
</tr>
<tr>
<td>☐ 7. Rate the percent of students are engaged in the video-modeling lesson (below):</td>
</tr>
<tr>
<td>☐ 0-25%  ☐ 25-50%  ☐ 50-75%  ☐ 75-100%</td>
</tr>
<tr>
<td>☐ 8. Enter student’s behavior rating data into the electronic system after every period.</td>
</tr>
<tr>
<td>☐ 9. Review student performance with students when appropriate.</td>
</tr>
<tr>
<td>☐ 10. Place this form in the school psychologist’s mailbox before you leave at the end of the day.</td>
</tr>
</tbody>
</table>

## Appendix E
**Observer Adherence Checklist**

**Teacher:**

**Date:**

<table>
<thead>
<tr>
<th>Intervention Steps</th>
<th>Permanent Product(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ 1. Verbally prompt students that it is time for social skills.</td>
<td></td>
</tr>
<tr>
<td>☐ 2. Turn on chosen technology to show the video.</td>
<td></td>
</tr>
<tr>
<td>☐ 3. Load the DVD with the appropriate weekly skill to be practice.</td>
<td></td>
</tr>
<tr>
<td>☐ 4. Select the appropriate daily video (Monday, Tuesday, Wednesday, Thursday, Friday).</td>
<td></td>
</tr>
<tr>
<td>☐ 5. Facilitate the activity at the end of the video.</td>
<td>☐ If the activity involves a permanent product (comic, list, etc.) this is completed</td>
</tr>
<tr>
<td>☐ 6. Provide verbal praise to students for completing the activity at the end of the video.</td>
<td></td>
</tr>
<tr>
<td>☐ 7. Rate the percent of students are engaged in the video-modeling lesson (below):</td>
<td></td>
</tr>
<tr>
<td>☐ 0-25% ☐ 25-50% ☐ 50-75% ☐ 75-100%</td>
<td></td>
</tr>
<tr>
<td>☐ 8. Enter student’s behavior rating data into the electronic system after every period.</td>
<td>☐ Data from every ratable period exists on the electronic data system.</td>
</tr>
<tr>
<td>☐ 9. Review student performance with students when appropriate.</td>
<td></td>
</tr>
<tr>
<td>☐ 10. Place this form in the school psychologist’s mailbox before you leave at the end of the day.</td>
<td>☐ Presence of Teacher Intervention Adherence Checklist in the School Psychologist’s mailbox.</td>
</tr>
</tbody>
</table>
Appendix F
MTSS Flowchart

Decision Rules

- Tier I: Explicit Training
  - <100% adherence
  - Nonresponsive Teacher Performance
  - 100% adherence
  - 10 con. data points

- Tier II
  - Responsive Teacher Performance
  - <100% adherence
  - 100% adherence
  - 3 con. data points

- Tier III
  - <100% adherence
  - Response to Tier II
  - 100% adherence
  - 1 data point

Done

100% adherence
100% 4 weeks
100% 10 con. data points
100% 3 con. data points
100% 1 data point
# Appendix G
Performance Feedback Email

## Performance Feedback Email

**Teacher:**

**Consultant:**

**Date:**

<table>
<thead>
<tr>
<th>Email Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Present up to date graphical representation of teacher performance (adherence)</td>
</tr>
<tr>
<td>□ Present up to date graphical representation of student performance (behavior ratings)</td>
</tr>
<tr>
<td>□ Discuss the goal for adherence and their progress toward the goal</td>
</tr>
<tr>
<td>□ Praise for the intervention steps that were accurately completed the previous day.</td>
</tr>
<tr>
<td>□ Schedule the next performance feedback meeting if applicable.</td>
</tr>
</tbody>
</table>

**Additional Notes:**

Adapted from Hemmeter et al., 2010
### Appendix H
Performance Feedback Meeting

<table>
<thead>
<tr>
<th>Meeting Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Present up to date graphical representation of teacher performance (adherence)</td>
</tr>
<tr>
<td>□ Present up to date graphical representation of student performance (behavior ratings)</td>
</tr>
<tr>
<td>□ Discuss the goal for adherence and their progress toward the goal</td>
</tr>
<tr>
<td>□ Identify the specific intervention steps the teacher had missed on the previous day and discuss the importance of those steps.</td>
</tr>
<tr>
<td>□ Discussion about how to improve implementation of missed steps.</td>
</tr>
<tr>
<td>□ Praise for the intervention steps that were accurately completed the previous day.</td>
</tr>
<tr>
<td>□ Schedule the next performance feedback meeting if applicable.</td>
</tr>
</tbody>
</table>

Additional Notes:
# Appendix I

Social Validity Rating Scale

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Disagree Slightly</th>
<th>Slightly Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>This would be an acceptable intervention for supporting staff implementation of an intervention.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>2.</td>
<td>Most individuals would find this intervention appropriate to support staff implementing an intervention.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>3.</td>
<td>This intervention should prove to be effective in increasing the likelihood of the intervention being implemented.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>4.</td>
<td>I would suggest this intervention to other staff.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>5.</td>
<td>Most staff would need this level of support to implement this intervention because the students’ needs in this setting are significant.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>6.</td>
<td>Most staff would find the intervention suitable for supporting them in implementing an intervention for their students.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7.</td>
<td>I would be willing to receive this kind of support when implementing an intervention.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8.</td>
<td>This intervention would <em>not</em> result in negative side effects for the students or staff.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>9.</td>
<td>This intervention would be appropriate for a variety of staff.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>10.</td>
<td>The level of support in this intervention is consistent with those I have used in the school setting.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>11.</td>
<td>The intervention was a fair way to support staff.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>12.</td>
<td>This intervention was reasonable for supporting staff.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>13.</td>
<td>I liked the procedures used in the intervention to support staff.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>14.</td>
<td>This intervention was a good method for supporting staff member’s implementation of an intervention.</td>
<td>1</td>
<td>2</td>
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<td>5</td>
<td>6</td>
</tr>
<tr>
<td>15.</td>
<td>Overall, this model to support staff is beneficial for a school.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>