Alliance-building strategies as a critical component of coaching: Effects of feedback and analysis on coach practice, teacher practice, and alliance

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Abstract

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This study used a multiple baseline design and one-on-one interviews to analyze the effects of the Teacher-Coach Feedback and Analysis System (TCFAS) on coach practice, teacher practice, and alliance. Under the TCFAS, coaches collected feedback from teachers on alliance, analyzed feedback, and generated an action plan to increase their use of alliance-building strategies during coaching sessions. Experimental and qualitative data show that while teacher-coach alliance remained high throughout the duration of the study, use of the TCFAS helped coaches view teachers as willing to change and led to the use of three alliance-building strategies: collaboration, behavioral expertise, and interpersonal skills. Experimental results also indicated a functional relationship between TCFAS coaching and an increase in praise among teachers. Although some improvements were also seen in teachers' use of Tier 3 behavioral interventions and reprimands, this improvement was not consistent across all teachers. These changes suggest that the TCFAS may be a useful tool for teachers and coaches working within the context of Tier 3 teams.

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ACKNOWLEDGEMENTS

This dissertation represents more to me than just one study conducted within a one-year timeframe. Instead, this study reflects the interests and commitments I developed over the past two decades while working in the field. My role as an educator- be it general education or special education teacher, coach or consultant, administrator or researcher- remains central to why I undertook this project. I hope it offers meaningful contributions to others who are equally committed to making schools a safer and more effective place for our most deserving students.

I would like to express my gratitude towards several mentors who guided me throughout the project. First, I offer my thanks to Dr. Carol A. Davis, my advisor. Carol continually encouraged me to work beyond my boundaries and I am grateful for her mentorship. I am also appreciative of the unwavering support and guidance of my other committee members, Dr. Marcy Stein, Dr. Charles Peck, and Dr. David Suarez. It has been an absolute joy to learn from each of you. I know that I owe many of my successes to what you have taught me. You have been transformative forces in my life and I thank you.

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CHAPTER 1

INTRODUCTION

Over thirty years ago, Joyce and Showers (1982) published their seminal work on professional development (PD) in schools, noting the typical form of professional development (i.e., decontextualized trainings that included presentation of theory, modeling, and practice and feedback opportunities for participants) accounted for only 5-15% of application, that is, *implementation,* of practices in the classroom. Importantly, these researchers found an additional element of PD, coaching, played a vitally important role in effective professional development. In fact, professional development incorporating effective training outside of the classroom setting *and* on-going coaching within the classroom setting led to 80-90% of implementation of new practices (Joyce & Showers, 1982).

Since the time of these findings, coaching has been widely endorsed as an effective support mechanism for improving teacher practice and student learning outcomes (Bean, Knaub, & Swan, 2000; Joyce & Showers, 2002; Kretlow & Bartholomew, 2010) as well as a tool for improving teacher knowledge (Cantrell & Hughes, 2008; Lovett, Lacerenza, De Palma, Benson, Steinbach, & Frijerts, 2008). In fact, Sailors and Shanklin (2010) note that coaching is recognized by numerous professional organizations as an effective form of professional development for teachers, including The International Reading Association, The National Staff Development Council, The Association for Supervision and Curriculum Development, and The National Council of Teachers of Mathematics. Endorsement by these varied organizations indicates coaching enjoys broad support as a way to improve teacher practice across a variety of instructional areas.

Referred to as a "promising practice" (Knight, 2009; Kretlow & Bartholomew, 2010;

Neufeld & Roper, 2003), coaching has also been promoted as a uniquely innovative form of professional development that helps the field of education achieve greater progress among individual teachers (Klingner, 2004; Odom, 2009) as well as across entire educational systems (Odom, Duda, Kucharczyk Cox, & Stabel, 2014; Neufeld & Roper, 2003; March & Gaunt, 2013). For example, Odom (2009) denotes coaching as a "wired" form of professional development (PD) that supports practitioners' efforts to improve practice, in contrast to "tired" or "expired" forms of PD such as stand-along trainings that offer little real help for practitioners in their efforts to improve teaching practices. Klingner (2004) similarly cites coaching as an important element of effective professional development that helps teachers apply new practices to their unique classroom settings. Other researchers, including Neufeld & Roper (2003), paint a promising picture of coaching in schools as an especially powerful form of PD that results not just in improved individual teacher practice but also contributes to systemic educational reform:

> By employing part-time or full-time coaches in schools, districts can provide ongoing, sustained support to principals and teachers to improve school organization and classroom instruction. The coaches work side-by-side with principals and teachers, observe their work, and offer critiques and models of effective practice. They put them in touch with resources that can help them. And they stay with schools over time, helping principals and teachers meet new challenges as they arise. (p. iii)

More recently, coaching has even been suggested as a bridge in the Evidence-Based-Practices (EBP) research-to-practice gap in special education. In fact, in one special edition of Exceptional Children focused on implementation, coaching was offered as a viable solution for reducing the EBP gap in five of seven articles (Cook & Odom, 2013; Fixsen, et al., 2013; Harn,

Parisi, & Stoolmiller, 2013; Klingner, Boardman, & McMaster, 2013; Odom, Cox, & Brock, 2013). For example, Klingner, Boardman, & McMaster note that coaching played a crucial role in helping district personnel integrate Collaborative Strategic Reading (CSR), an EBP, into their existing instructional program such that implementation sustained over time. Harn, Parisi, & Stoolmiller (2013) maintain that coaching simultaneously helped teachers understand how to implement an EBP, the Incredible Years, with fidelity while also implementing that EBP with acceptable adaptations. In a discussion of the state-level implementation of SWPBIS, Fixsen and colleagues (2013) highlight the role coaches play throughout the different stages of implementation as states work to bring PBIS to scale. Taken together, these articles suggest that the field of education holds a strong affinity for coaching as a mechanism for mitigating the research-to-practice gap in special education among individual teachers, school districts, and even at the state level.

Coaching has also been included as a key part of implementation frameworks designed to help organizations effectively engage in the complex process of putting new programs and practices into place (Damschroder, Aron, Keith, Alexander, & Lowery, 2009; Fixsen, Naoom, Blase, Friedman, & Wallace, 2005; Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004). For example, Fixsen, et al. (2005) included coaching as one of seven core drivers in their education-based implementation framework while Damschroder, et al. (2009) emphasized coaching as a factor that impacts implementation within several domains of the Consolidated Framework of Implementation Research (CFIR). In a review on implementation Greenhalgh, et al. (2004) proposed coaching as an integral aspect of effective implementation, an idea echoed by other researchers from the fields as mental health (Durlak & DuPre, 2008; Proctor, Landsverk, Aarons, Chambers, Glisson, & Mittman, 2009; Wandersman, et al., 2008) and

nursing (Kitson, Harvey, &McCormack, 1998). The inclusion of coaching within these prominent frameworks indicates coaching is believed to play a vital role in improving practice across a variety of fields.

Perhaps because of the promise and promotion of coaching, this form of PD has become widely implemented in schools across the United States for over eighty years (Cassidy, Garrett, Maxfield, & Patchett, 2010), recently in the context of federal educational initiatives such as Reading First (Bean, Draper, Hall, Vandermolen, & Zigmond, 2010; Deussen, Coskie, Robinson, & Autio, 2007; Gamse, Jacob, Horst, Boulay & Unlu, 2008; Garet, et al., 2008; Walpole & Blamey, 2008) and School Wide Positive Behavior Intervention Supports (SWPBIS; Hume & McIntosh, 2013; Horner, 2009; Kincaid & March, 2011; Scott & Martinek, 2006; Sugai & Horner, 2006). Both initiatives highlight the need for providing on-going, classroom-based coaching to teachers such that practices can improve and students can demonstrate improvements in academic and behavior. To accommodate such federal level initiatives coaches currently constitute a significant portion of the teacher workforce, with some states hiring between 1,000 to 2,000 coaches per year (Denton & Hasbrouck, 2009; Cornett & Knight, 2009).

Given this broad application of coaching in schools, one would presume that an effective form of coaching was regularly relied upon in schools. Indeed, as noted by Denton and Hasbrouck (2009):

> The idea of providing sustained, job-embedded professional development and support to teachers has a strong intuitive appeal, and there has been a 'headlong rush' into putting coaching into practice…There appears to be a general assumption that 'everyone knows' what coaching consists of, with

> vague notions of observing teachers in classrooms and providing them with feedback about their teaching. (p. 154-155)

However, effective coaching remains somewhat elusive in schools, as Denton and Hasbrouck (2009) conclude:

> Unfortunately, the rush to implement coaching before strong theoretical models, or even well-defined job descriptions, were in place has caused a great deal of confusion related to the role and focus of coaching. "Coaching" is, in essence, different things to different people…" (p. 154-155)

Perhaps because of this "headlong rush" (Denton & Hasbrouck, 2009), coaching often takes many forms in schools, including instructional coaching across content areas (Knight, 2009), literacy coaching (Bean & Isler, 2008; Sailors & Shanklin, 2010) math coaching (Yopp, Burroughs, Luebeck, Heidema, Mitchell, & Sutton, 2011; Hull, Balka, & Miles, 2009), cognitive coaching (Costa & Garmston, 1994), peer coaching (Joyce and Showers, 2002), and behavior coaching (Stormont & Reinke, 2012; Becker, Darney, Domitrovich, Pitchford, & Ialong, 2013; Hershfeld, Pell, Sechrest, Pas, & Bradshaw, 2012). Adding to the confusion, the role of the coach can be filled by a range of practitioners, including special educators, teachers with specialized endorsements or subject-matter expertise (e.g., behavior coaches, math coaches, literacy coaches), school psychologists, or even university supervisors (Denton & Hasbrouck, 2009; Kretlow & Bartholomew, 2010). These coaches may provide support to an equally large range of teachers, including general educators, special educators, pre-service teachers, practicing teachers, and teachers across all grade levels (Kretlow & Bartholomew, 2010). And to further complicate this form of professional development, at least one form of coaching (i.e., behavior

coaching) also refers to coaches as consultants (Kucharczyk, Shaw, Smith Myles, Sullivan, Szidon, & Tuchman-Ginsberg, 2012; Lewis, et al., 2010; Odom, Duda, Kucharczyk, Cox, & Stabel, 2014; Stormont & Reinke, 2012).

Although much variation exists in coaching (e.g., who serves as coach, who is coached, whether coaching focuses on individual teacher change or system level change), the goals of coaching, like other forms of professional development, remain quite clear: to improve teacher practice and student outcomes (Darling-Hammond, 2009; Desimone, 2009; Yoon, et al., 2007). Moreover, what remains unique about coaching is how it achieves its goals. Unlike other forms of PD, with coaching there is an emphasis on providing direct support to teachers in the context of their classrooms (Joyce and Showers, 2002; International Reading Association, 2004; Shanklin, 2006; Snow, Ippolito, & Schwartz, 2006). Coaching therefore serves as a mechanism of on-going, classroom-based support for teachers as they implement practices and to thereby indirectly support improved student outcomes. Although recent coaching literature also emphasizes the importance of building teacher knowledge (Gersten, Dimino, Jayanthi, Kim, & Santoro, 2010; Garet, et al., 2011; Sailors & Shanklin, 2010), improvements in knowledge have commonly been viewed as a path towards improving teacher practice and student outcomes, rather than a primary goal.

Given the widespread implementation, promise, and promotion of coaching, it is important research causally link coaching to its goals of improving teacher practice and student outcomes (Darling-Hammond, 2009; Desimone, 2009; Garet, et al., 2011; Yoon, Duncan, Lee, Scarloss, & Shapley, 2007). Importantly, a body of research now exists that lends credence to the idea that coaching behaviors, rather than a particular form of coaching, impact teacher practice and student outcomes. These are the critical components of coaching. Critical

components are those necessary or essential "ingredients" of a program, practice, or intervention that must be in place in order to have the desired effect (i.e., improved teacher practice and student outcomes; Cook & Odom, 2013; Fixsen, et al., 2005; Harn, et al., 2013; Klingner, et al., 2013). Critical components are important because programs, practices, and interventions often consist of myriad elements, of which some when implemented in various contexts may be adapted, changed or even omitted, rendering the practice ineffective (Fixsen, et al., 2005; Kretlow & Blatz, 2011). Several researchers argue it is important to delineate the critical components of any program, practice, or intervention so practitioners clearly know which elements of a program can be adapted when implementing the practice in any given context (Harn, et al., 2013; Klingner, et al., 2013; McLaughlin, 1990).

Similarly, if coaching is to be effective (i.e., improve teacher practice and student outcomes), it is important to understand which coaching elements are critical and which can be omitted or adapted without negatively impacting expected outcomes. These specific coaching components include: 1) repeated observations; 2) modeling of practice; and 3) immediate, positive, and specific feedback based on observations (Kretlow & Bartholomew, 2010; Neuman & Cunningham, 2009). Coaching models that systematically incorporate the three specific behaviors, or coaching critical components, may be more effective than coaching models that do not actively utilize these elements of effective coaching.

However, decades of research suggest one additional important component of effective coaching: a positive relationship, or alliance, between teachers and coaches (Hershfeld, et al., 2012; Ippolito, 2010; Matsumura, Garnier, & Resnick, 2010; Wehby, Maggin, Partine, & Robertson, 2011). Some of this research illuminates factors that shape alliance (e.g., coaches' interpersonal skills and efforts to collaborate with teachers; coaches' expertise) and offers

techniques that may help build alliance such as spending time with teachers outside of the classroom setting (Hershfeld, et al., 2012), using strong communication skills (March and Gaunt, 2013) or by establishing a trusting rapport (Becker, Darney, Domitrovich, Keperling, & Ialongo, 2013). Moreover, this body of research converges to suggest that relationships between teachers and coaches impacts the degree to which coaching can achieve its goals of improving teacher practice and student outcomes (Hershfeld, et al., 2012; Ippolito, 2010; Wehby, et al., 2011). For example, Wehby, et al. (2011) recently examined the association between alliance and teacher practice and found positive alliance in teacher-coach dyads significantly correlated with high levels of fidelity of teacher practice. This particularly powerful finding suggests teacher-coach alliance plays more than an ancillary role in one outcome of coaching: improved teacher practice.

While Wehby et al.'s (2011) finding provides evidence for the correlation between alliance and teacher practice and the field has suggested strategies coaches may use to build alliance, we currently lack direct causal links between coaches' use of these strategies and teacher practice. Subsequently, it is unknown if coach practice that incorporates alliance strategies, like other coaching components, directly impacts teacher practice. If coaching is to be effective, it is important to clearly delineate the role of alliance-building strategies as a critical component of coaching.

The following chapter will provide a review of existing research on the impact of coaching on teacher practice and student outcomes, clarifying the direct links among these three critical coaching components and teacher and student outcomes. This chapter will also advance the hypothesis that at a fourth critical coaching component exists: alliance-building strategies. Therefore, the chapter will conclude with a discussion of teacher-coach alliance, alliance-

building strategies, and the theory of change guiding the current study. The research question of the study will also be presented to examine the impact of alliance-building strategies on teacher practice.

CHAPTER 2

REVIEW OF THE LITERATURE

The Impact of Coaching

Coaching is a form of PD and like any other form of PD, it is important research causally link coaching to improved teacher practice and student outcomes (Darling-Hammond, 2009; Desimone, 2009; Garet, et al., 2011; Yoon, Duncan, Lee, Scarloss, & Shapley, 2007). Two bodies of research provide important links between coaching and improved teacher practice and student outcomes. First, Randomized Control Trials and quasi-experimental designs are typically considered "Gold Standard" methodological choice in social sciences research for their ability to allow researchers to draw causal conclusions about relationships between independent and dependent variables while controlling for confounds (Cook & Sinha, 2006; Garet, et al., 2011; Gersten, Fuchs, Compton, Coyne, Greenwood, & Innocenti, 2005; Shadish & Luellen, 2006). Although limited in number, several recent studies meeting the standards for high-quality group design research established by the What Works Clearinghouse (WWC; n.d.) offer direct links between coaching and improved teacher practice (Neuman & Cunningham, 2009; Neuman & Wright, 2010) or coaching, improved teacher practice, and improved student outcomes (Biancarosa, Bryk, & Dexter, 2010; Kim, et al., 2013). Collectively, these studies test the effects of on-going coaching cycles incorporating observation, modeling, and feedback on teacher practice and student performance. Findings across these studies are particularly powerful, as they show coaching- whether it is instructional coaching by expert peer or behavior coaching by outside consultant- can lead to improvement in teacher practice and student outcomes.

Second, a body of single subject experimental research (Kazdin, 2011) converges with findings from RCTs and quasi-experimental designs to suggest both teacher practice and student

outcomes can improve with coaching (Bethune & Wood, 2013; Kretlow & Bartholomew, 2010; Kretlow, Cooke, & Wood, 2012). Like RCTs and quasi-experimental designs, these single subject studies show a functional relationship exists between coaching cycles of observation, modeling, and feedback and improved teacher practice. The majority of these studies also show causal links among coaching, improved teacher practice, and improved student learning outcomes.

Critical Components of Coaching: Observation, Modeling, & Feedback

Of particular importance from these two bodies of experimental research are findings affirming at least three specific critical coaching components are more likely to facilitate improved teacher practices and improved student performance. Experimental suggest critical coaching components include: 1) repeated observations; 2) demonstration or modeling of practice by the coach in teachers' classrooms; and 3) immediate, specific, positive, and corrective (if warranted) feedback based on observations (Kretlow & Bartholomew, 2010; Neuman & Cunningham, 2009; Scheeler, Ruhl, & McAfee, 2004).

While findings on the use of coaching incorporating these critical components will be synthesized next, it should be noted that *individual* coaching behaviors (e.g., observations) are rarely studied independently. That is, literature on coaching does not compare individual components but rather the combination of these (e.g., observation combined with feedback; observation combined with modeling and feedback). This is because observation is considered to be the "jumping off point" from which coaches then engage in other coaching behaviors (Neuman & Cunningham, 2010; Denton & Hasbrouck, 2009; Stormont & Reinke, 2012). Studies on cycles of coaching as: 1) observation and feedback; and 2) observation, modeling, and

feedback will therefore be discussed next to explicate the critical role they play in effective coaching.

Coaching as cycles of observation and feedback. Coaching incorporating observation-feedback cycles provide repeated opportunities for the coach to directly watch the teacher use a new practice while students are present and to later meet with the teacher to debrief the observation (Scheeler, et al., 2004; Stormont, Reinke, Newcomer, Darney, & Lewis, 2014). Across this body of research, observations are considered to be a time for the coach to collect data on the use of teacher practice so that subsequent debriefing can incorporate feedback to the teacher in order to help him or her better understand how use of the practice is impacting student performance. Feedback may be based on formal data (e.g., tallies of praise; opportunities to respond; student engagement; Scheeler, et al., 2004) or anecdotal notes (Neuman & Cunningham, 2009). Coaches may then provide written, graphical, or oral feedback to teachers during a post-observation meeting (Solomon, Klein, & Politylo, 2012; Cornelius & Nagro, 2014; Stormont, et al., 2014; Reinke, Lewis-Palmer, & Martin, 2007), although feedback may also be provided in-the-moment-of-teaching using these same formats or bug-in-ear-technology (Scheeler, et al., 2004). Some recent research even draws upon the use of video-based technology to provide written and verbal feedback (Israel, Carnahan, Snyder, & Williamson, 2013).

What is clear from this research is that observing and providing feedback is highly effective in improving teacher practice (Solomon, et al.; Cornelius & Nagro, 2014; Stormont, et al., 2014). Although cycles of observations-with-feedback seem to be most effective when feedback is specific (as opposed to general), positive, and corrective (if warranted; Sheeler, et al., 2004), the immediacy of feedback also seems to be important. That is, feedback is likely most

effective when either delivered the same day of an observation or within a day's time (Solomon, et al., 2012; Scheeler, et al., 2004).

However, other aspects of providing feedback are more flexible. For example, feedback can be equally effective when delivered from a variety of coaches (i.e., university supervisors, practicing teachers, researchers, and peers; Scheeler, et al, 2004; Cornelius and Nagro, 2014; Kretlow & Bartholomew, 2010) to a variety of recipients, including pre-service teachers, practicing teachers, general educators and special educators (Cornelius and Nagro, 2014; Kretlow and Bartholomew, 2010; Solomon, et al., 2014). Further, improvements have been seen in a range of areas with the use of this form of coaching, including the use of behavioral practices such as general and specific praise rates (Duchaine, Jolivette, & Fredrick, 2011; Reinke, et al., 2007; Hemmeter, Snyder, Kinder, & Artmanm 2011; Fullerton, Conroy, & Correa, 2009), positive play opportunities (Hundert and Hopkins, 1992), and behavioral pre-corrections (De Pry and Sugai, 2002). Cycles of observations and feedback also support teachers' use of academic practices such timed fluency drills (Duhon, Mesmer, Gregerson, & Witt, 2009), lesson components (Capizzi, Wehby, & Sandmel, 2010), and reading instruction (Denton, Swanson, & Mathes, 2007). These findings suggests that coaches can adapt feedback based on the unique coaching situation (e.g., use verbal feedback for a general educator or graphs for a special educator or vice versa) and still achieve improved teacher practice in a variety of areas.

Importantly, studies on this form of coaching suggest that on-going cycles of observation and feedback lead to both improved teacher practice *and* improved student performance (Solomon, Klein, & Politylo, 2012; Stormont, Reinke, Newcomer, Darney, & Lewis, 2014; Scheeler, et al., 2004). For example, students can improve in the areas of aggression (Smith, Lewis, and Stormont, 2011; Conduct Problems Prevention Research Group, 2010), disruptive

behaviors such as non-compliance (Reinke, Lewis-Palmer, & Merrell, 2008; Noel, Duhon, Gatti, and Connell, 2002; Hemmeter, et al., 20111; Luselli, Putnam, Handler, & Feinberg 2005), and off-task behaviors (Riley-Tillman, and Eckert, 2001; Sutherland, Wehby, and Copeland, 2000). In fact, twenty-eight of thirty studies reviewed by Stormont, et al. (2014) showed positive impact of coaching on student behavior, with only two studies showing neutral impact. Corroborating this, Solomon, et al. (2012) found an equally compelling body of research showing improvements in student performance as a result of coaching that included observations and feedback cycles.

Although much is known about the effectiveness of this form of coaching, some questions remain unanswered about how observation-feedback cycles can be better tailored to meet the unique needs of individual teachers and their students. For example, this body of research shows surprisingly broad differences in the ways in which coaching occurs, particularly regarding its frequency (i.e., occurrences within a set time frame) and duration (i.e., how long coaching occurs). For example, many observation-feedback cycles occur weekly (e.g., Auld, Belfiore, & Scheeler, 2010; Casey & McWilliams, 2008) while other studies do not indicate the frequency of sessions (e.g., Hemmeter, Snyder, Kinder, & Artman, 2011; DiGennaro, Martens, & McIntyre, 2005). Regarding the duration of coaching, some studies of observation-feedback cycles extend for as little as six weeks (e.g., Rodriguez, Loman, & Horner, 2009; Noell, Witt, LaFleur, Mortenson, Rainer, & LeVelle, 2000; Reinke, Lewis-Palmer, & Martin, 2007) and on rare occasions extend as long as an entire school year (e.g., Casey & McWilliams, 2008). Many other examinations include bouts of coaching somewhere in the middle (i.e., from seven to 14 weeks; Mesa, Lewis-Palmer, & Reinke, 2005; Scheeler, McAfee, Ruhl, & Lee, 2006).

Given these differentiations in *how* coaching occurs, what remains unclear is two things: 1) how much of this form of coaching is needed by teachers in order to achieve such improvement; and 2) how do coaches know what is "enough" coaching in order to sustain changes in teacher practice. As suggested by Reinke, et al. (2014), it may be that even teachers with higher initial levels of implementation who receive less feedback from coaches may eventually result in significantly lower levels of implementation than initially low-implementation teachers who receive more feedback from coaches. This would indicate that tailoring the amount of feedback (i.e., frequency), even among teachers who initially show high levels of fidelity, may be particularly important for sustaining improved teacher practice (Reinke, et al., 2014).

While clarifying how duration and frequency of this form of coaching would help the field better understand how these two factors impact individual teacher practice and student outcomes, what remains clear is that coaching as cycles of observation and feedback are a powerful way to improve both teacher practice as well as student performance. These findings are particularly important, as these are the ultimate goals of coaching. In fact, given the points above, several researchers argue that cycles of observation and feedback are so powerful in changing teacher practice that immediate, specific, positive, and corrective (if warranted) feedback should be considered an Evidence-Based Practice (Solomon, et al., 2014; Stormont, et al., 2014; Fallon, Collier-Meek, Maggin, Sanetti, & Johnson, 2015).

Coaching as cycles of observation, modeling, and feedback. While many teachers may benefit from coaching that incorporates only observation and feedback, several other studies suggest that teachers benefit from the use of an additional coaching behavior: modeling. Modeling, also referred to demonstration, is when a coach shows a teacher how to use the

practice. Modeling most commonly occurs within the context of the classroom when a teacher is not correctly using a practice with students. Therefore, one purpose of in-classroom modeling is to help a teacher better understand how the accurate use of a practice "looks" and how the accurate use of that practice impacts student performance. However, modeling may also occur when students are not present (i.e., during a training or during a post-observation meeting with the teacher). This form of modeling may also help a teacher understand how to accurately use a practice, but may not help him or her understand how the use of that practice impacts student performance (Kretlow & Bartholomew, 2010).

As noted by Kretlow & Bartholomew (2010), this "my turn-our-turn-your turn" approach, often used by teachers with students, can be equally beneficial for teachers who are learning how to correctly implement practices, whether those teachers are experienced or pre-service. For example, research examining coaching cycles that incorporate modeling suggest that the use of this coaching component can result in increased initial acquisition of new teaching behaviors (Kohler, Crilley, Shearer, & Good, 1997), as well as increased accuracy of previously learned teaching behaviors (Kretlow and Bartholomew, 2010). In fact, modeling seems to be important for sustaining accurate teaching behaviors and generalizing those behaviors to other instructional contexts (Bethune & Wood, 2013; Kretlow, et al., 2012).

Further, coaching that incorporates modeling can yield improvements in teachers' use of academic practices as well as their use of behavioral interventions. For example, improvements have been seen in teachers' use of model-lead-test instructional formats, choral responding, and the use of written response cards (Kretlow, Wood, & Cooke, 2011; Kretlow, Cooke, & Wood, 2012). Improvements have also been noted in the area of reading instruction (Biancarosa, et al., 2010; Neuman & Cunningham, 2009; Neuman & Wright, 2010) and among teachers working

with students with limited English proficiency (Kim, et al., 2014). Related to teachers' improvement in the use of behavioral practices, modeling seems to be particularly helpful for those teachers attempting to implement complex behavioral interventions, for those who are new to the use of behavioral interventions, or for teachers who seem to repeatedly struggle to use such interventions (Bethune and Wood, 2013; Barton, Chen, Pribble, Pomes, & Kim, 2013). In fact, improvements in teachers' use of academic and behavioral practices are noted among special educators (e.g., Bethune & Wood, 2013; Barton, et al., 2013) as well as among general educators (e.g., Neuman & Cunningham, 2009; Kim, et al., 2014).

Coaching that includes on-going cycles of observations, modeling, and providing feedback also seems to also have a powerful impact on student outcomes. For example, improvements have been noted in the behavioral performance among students in the general education setting (Filcheck, McNeil, Greco, & Bernard, 2004) as well as the special education setting (Domitrovich, Gest, Jones, Gill, & Sanford DeRousieet, 2010). Student academic performance has also been noted across both locales (e.g., Biancarosa, et al., 2010; Kim, et al., 2013; Neuman & Wright, 2009; Neuman & Cunningham, 2010 for general education setting; Bethune & Wood, 2013; Barton, et al., 2013 for special education setting). This is a particularly important finding, given that student improvement is a goal of any form of PD, including coaching.

Yet like research on coaching as cycles of observation-feedback, coaching that incorporates modeling has not yet addressed at least two questions about this form of coaching. For example, while it is clear *under what circumstances* a teacher may benefit from modeling, it is unclear when it is particularly important for a coach to *end* modeling. Some research suggests that modeling may be crucial when a teacher drops below a certain level of fidelity (Bethune &

Wood, 2013) but to date it is unclear when a coach can safely omit modeling from coaching. It is also unclear how alternating between coaching as observation-feedback and coaching as observation-modeling-feedback impacts teacher practice.

Conclusions on critical coaching components. Despite these unaddressed questions, coaching cycles involving on-going cycles of observations, modeling, and providing feedback can be an effective approach to improving both teacher practice and student performance. Moreover, these findings suggest that coaching models that systematically incorporate these three specific behaviors, or coaching "critical components", are more effective than coaching that does not actively utilize these elements of coaching (Neuman & Cunningham, 2009; Biacarosa, et al., 2010; Kretlow & Bartholomew, 2010). While other coaching behaviors such as coaches' setting goals for teachers (Crawford, Zucker, Williams, Bhavsar, & Landry, 2013; Kretlow & Bartholomew, 2010; Neuman & Wright, 2010) and teacher-coach problem solving (Minor, DuBard, & Luiselli, 2014; Kucharczyk, et al., 2012; Reinke, et al., 2014) may be important, existing experimental research has not yet confirmed these are critical coaching behaviors, suggesting they may be helpful, but more ancillary elements of coaching. As stated by Neuman and Cunningham (2009), "the consensus among applications appears to be that coaching is a form of PD that involves on-going classroom modeling, supportive critiques of practice, and specific observations" (p 538).

Alliance as a Critical Coaching Component

Decades of qualitative research on coaching delineate an additional critical component of effective coaching: a positive relationship between teachers and coaches (Ippolito, 2010; Matsumura, Garnier, & Resnick, 2010; Mraz, et al., 2008; Vanderburg & Stephans, 2010), also referred to as alliance (Wehby, et al., 2012). The importance of the teacher-coach relationship is

echoed within an equally large body of literature on coaching directed to practitioners in the field (e.g., see Neufeld & Roper, 2003; Shanklin, 2006). In fact, positive teacher-coach alliance has been suggested as a foundational aspect of effective coaching, including in the context of literacy coaching (Bean & Isler, 2008; Sailors & Shanklin, 2010) instructional coaching (Knight, 2009; Neufeld & Roper, 2003), PBIS and behavioral coaching (Stormont & Reinke, 2012; Becker, et al., 2013; Hershfeldt, et al., 2012; March & Gaunt, 2013; Reinke, et al., 2012), and math coaching (Barlow, Burroughs, Harmon, Sutton, & Yopp, 2014; Hull, et al., 2009). For example, Becker, et al. (2013) notes coaches working in the context of PBIS must *first* work to establish a positive rapport with teachers and only after this relationship develops should a coach begin cycles of coaching that include observation, modeling, and feedback. Neufeld and Roper (2003) note effective literacy coaching within the classroom setting is based on a foundation of a positive teacher-coach alliance. This idea is echoed by Barlow, et al. (2014) who maintain a math coach must first develop a positive alliance with teachers in order to bring about changes in practice. Overall, it is clear that regardless of the context in which coaching occurs, it is important for a coach to actively nurture a positive rapport between the coach and teacher so that the coach can subsequently engage in other critical coaching behaviors such as observation, modeling, and providing feedback.

Research on this relationship explores perceptions of teachers and coaches (Chambers & Hughes, 2008; Vanderburg & Stephans, 2010; Chval, et al., 2010) and building-level and district-level administrators (Magin, 2009; Matsumura, Sartoris, DiPrima, & Garnier, 2009; Taylor, Moxley, & Boulware, 2007; Sturtevant & Kopfman, 2012). Taken together, this research offers at several important conclusions, including: 1) a host of factors shape and influence alliance; 2) specific strategies can be used to build and maintain alliance between

dyads; and, 3) alliance plays more than an ancillary role in coaching practice that aims to improve teacher practice.

Factors shaping alliance. Research on the relationships between teachers and coaches suggests a host of factors shape and influence alliance, including: 1) the coach's interpersonal skills, such as building trusting relationships such that the teacher clearly understands that coaching is not intended to evaluate or judge practice and the use of effective communication skills (Blamey, Meyer, & Walpole, 2009; Ippolito, 2010; Neuman & Wright, 2010); 2) collaboration skills, including meeting teachers' unique needs, goals, and conveying coaching is teamwork (Neuman & Wright, 2010; Walpole, McKenna, Uribe-Zarain, & Lamitina, 2010; Vanderburg & Stephans, 2009); 3) the coach's expertise in the subject in which coaching occurs and his or her skill in providing feedback to the teacher about use of the intervention (Chval, et al., 2010; Gallucci, et al., 2010; Cantrell & Hughes, 2008); and, 4) the degree to which the principal actively makes clear the purpose of coaching (Magin, 2009; Matsumura, Garnier, & Resnick, 2010; Matsumura, Sartoris, DiPrima, & Garnier, 2009; Walpole, et al., 2010).

Interestingly, these factors that shape teacher-coach alliance are the same factors that shape alliance between other working dyads, including patients and therapists. Martin, Garske, & Davis (2000) define alliance as a construct influenced by: 1) the degree to which patients and therapists have a trusting bond, where therapists draw upon effective communication to convey that patients will not be judged but instead continually supported by the therapist; 2) the patient's perception that treatment is a collaborative effort, where patients and therapists come to an agreement on treatment tasks and goals and continually revisit progress towards these goals; and, 3) the patients' perception that therapists hold high levels of expertise, where therapists suggest productive therapeutic tasks, provide feedback about the client's progress, and adapt treatment

tasks in order to better respond to clients' changing needs. These three factors overlap with factors that contribute to positive teacher-coach alliance, including interpersonal skills (i.e., trust building and effective communication; Bean, 2004; Ippolito, 2010; Neuman & Wright, 2010), the collaborative skills of the coach (i.e., meeting shared goals and needs of teachers; Ippolito, 2010; Walpole, et al., 2010), the expertise of the coach (i.e., knowing how to convey feedback to the coach and that the coach has a deep level of knowledge; Gallucci, et al., 2010; Ippolito, 2010), and that coaching is a non-evaluative, non-judgmental form of support (Magin, 2009; Matsumura, Garnier, & Resnick, 2010; Matsumura, Sartoris, DiPrima, & Garnier, 2009; Walpole, McKenna, Uribe-Zarain, & Lamitina, 2010). Across fields, alliance between a pair working together (i.e., teacher-coach; patient-therapist) seems to be similarly established, with similar factors shaping relationships.

Strategies to build alliance. Further, researchers from coaching and mental health have gone beyond the identification of the factors that shape and influence alliance. These researchers have identified specific strategies therapists or coaches can draw upon to build alliance with clients (Norcross and Wampold, 2011; Safran, Muran, and Eubanks-Carter, 2011; Horvath, et al., 2011) or with the teachers they support (Becker, et al., 2013; March & Gaunt, 2013; Barlow, et al., 2014). Perhaps not surprisingly, these strategies can target specific factors of alliance. That is, some strategies seem to be particularly effective at building collaboration, while other strategies seem to productive ways for therapists or coaches to show strong interpersonal skills. Yet other strategies help convey a therapist or coaches' expertise. Moreover, the strategies suggested in one field mirror those suggested by the other, indicating that specific strategies may be productive ways to build alliance, regardless of the context in which dyads are working.

Alliance-building strategies for interpersonal skills. Becker, et al. (2013) and March and Gaunt (2013) suggest that some specific alliance-building strategies can be used to help a coach show strong interpersonal skills. The premise behind these strategies is that they support trusting relationships between teachers and coaches. As related to coaching, these strategies include getting to know teachers on a personal and professional level in order to establish trust. More specifically, coaches can help teachers set up and prepare their classrooms, "share stories, laugh and empathize,…discuss personal issues, and listen with great care" (Knight, 2007, p. 94). Empathetic listening, restating, and summarizing information conveyed by the teacher are also offered as strategies coaches can use to demonstrate strong interpersonal skills. Similarly, from the arena of mental health, therapists are encouraged to continually express empathy for clients and to effectively communicate. For example, empathetic expressions such as "*That must be difficult*!" can be paired with affirmations of the client's self-efficacy (e.g., *You can do this!")*. Relatedly, avoiding comments or behaviors that may be perceived as blaming or hostile seem to be important aspects of showing strong interpersonal skills. Such comments, if offered, may erode trust and negate empathetic expressions (Norcross & Wampold, 2011; Safran, et al., 2011).

Alliance-building strategies for collaboration. Researchers from coaching and mental health have also identified alliance-building strategies that can be used to ensure the partnership is collaborative. For example, it seems important for the therapist/coach to continually address the needs and goals of clients/teachers, particularly if clients/teachers view tasks as unaligned to what they hope to accomplish (Martin, et al., 2000; Ippolito, 2010). It is also important the therapist/coach develops plans to help the client/teacher make progress towards goals. Another collaboration strategy is to convey that the dyad members are working together to accomplish goals. This may be achieved by making comments such as, "We're in this together!" or "How

can I help you reach this goal we are working towards?" The use of these strategies may be effective ways to show that their work together is a collaborative effort.

Alliance-building strategies for expertise. Some specific alliance-building strategies can also be used to help a coach/therapist show expertise. One such strategy is for the therapist/coach to regularly provide positive feedback to the client/teacher so that he or she is able to directly link changes in behavior to client/teacher improvements. This strategy may be particularly important in coaching, as providing feedback on the use of practices is a critical coaching component and therefore should be integrated into a coaches' everyday practice (Kretlow and Bartholomew, 2010). Another strategy for demonstrating expertise is for the therapist/coach to convey that he or she has a depth of knowledge that can be drawn upon in order to effectively guide the client/teacher towards making improvements (Reese, et al., 2009; Safran, et al., 2011; Norcross and Wampold, 2011). Knowledge can be shown by explaining complex concepts, describing why certain situations arise, and by repeatedly revisiting complex ideas and concepts until the teacher/client understands why certain tasks are needed (Norcross and Wampold, 2011; Ippolito, 2011; Safran, et al., 2011; March and Gaunt, 2013).

Ineffective alliance-building strategies. On the other hand, Norcross and Wampold (2011) illustrate what does *not* work to improve alliance, and these strategies seem to be equally ineffective in the context of coaching (Ippolito, 2011; Becker, et al., 2013; March and Gaunt, 2013). Examples of ineffective strategies include: 1) confrontations; 2) being overly critical or pejorative; 3) assuming the therapist/coach knows what the client/teacher thinks about therapeutic progress and alliance; and, 4) remaining rigidly tied to a specific treatment/coaching plan without regard for the clients' needs and goals. In sum, "[t]he ineffective therapist will

resist client feedback, ignore alliance ruptures, and discount [the client]" (Norcross & Wampold, 2011, p. 101).

Impact of alliance. Research on alliance across mental health and coaching offers compelling information about the role of alliance as a foundational part of effective therapy/coaching. This research suggests that alliance- whether it between therapists and clients or teachers and coaches- plays more than an ancillary role in coaching. In coaching, this body of research shows that teachers often perceive coaching in a less than positive light when it is unclear if coaching will be used for evaluative purposes rather than for the purpose of collaboratively supporting teachers as they progress towards their own goals (Blamey, Meyer, & Walpole, 2009; Matsumura, 2010). The lack of clarity of the purpose of coaching can create a climate of distrust between the coach and the teacher, with teachers more or less actively resisting the efforts of the coach (Bean, 2004; Matsumura, et al., 2009). Teachers may also question the skill or expertise of coaches, particularly when coaches are new to their roles (Gallucci, et al., 2010; Chval, et al., 2010) or lack classroom-teaching experience (Hershfeldt, et al., 2012; Reinke, Stormont, Webster-Stratton, Newcomer, & Herman, 2012). Moreover, if a coach communicates using language that judges, lectures, or minimizes the views and needs of teachers, teachers may not find coaching palatable (Kucharczyk, et al., 2012). These are common issues that arise, and when unresolved, may serve as barriers. This can result in negative views of coaching.

The idea the working relationship between a dyad (e.g., teacher-coach; therapist-client) plays a central role in outcomes is echoed in research from the field of mental health. For over thirty years, mental health research consistently shows that alliance plays a powerful role in shaping outcomes, with stronger patient outcomes occurring when therapists and patients have a

strong alliance (Tracey & Kokotovic, 1989; Efstation, Patton, & Kardash, 1990; Horvath, et al., 2011; Martin, et al., 2000). In their meta-analytic review on alliance in the mental health setting, Martin and colleagues (2000) note, "If proper alliance is established between a patient and a therapist, the patient will experience the relationship as therapeutic…. (p. 446). These researchers conclude, "What is evident from this review is that the strength of the alliance is predictive of [treatment] outcome…" (p. 446). In fact, the magnitude of the association between alliance and outcomes is so powerful that it "is one of the strongest and most robust predictors of treatment success empirical research has been able to document (Horvath, et al., 2011, p. 15).

These findings are echoed in a relatively new, albeit small, line of quantitative research on teacher-coach alliance. This emerging line of research suggests that teacher-coach alliance can be a significant predictor of at least one outcome of coaching: teacher fidelity of practice. That is, teachers with more positive teacher-coach alliance may implement instructional programs with greater fidelity. In fact, although a teacher's positive perceptions of the instructional program also seem to predict fidelity of teacher practice, alliance serves as the strongest predictor of teacher practice. Alliance also seems to offer a protective factor for teachers, as teachers with positive teacher-coach alliance may be less likely to experience burnout while implementing new interventions (Wehby, et al., 2012).

Taken together, these findings offer at least three important implications about the important role teacher-coach alliance plays in coaching outcomes. First, it is clear teacher perceptions about teacher-coach alliance simply matter during implementation of new programs. These perceptions uniquely predict observable teacher practice. This suggests that if the purpose of coaching is to improve teacher practice, then it is important to understand how teachers perceive teacher-coach alliance. This information can be used to inform other practitioners (e.g.,

coaches or administrators) about the degree to which teachers will likely implement new practices.

Moreover, this finding suggests that negative teacher-coach alliance may be more than just a minor inconvenience with coaching. It is possible that in the most extreme sense, even other-wise effective coaching that relies upon the critical components of observation, modeling, and feedback may be insufficient for leading to teacher behavioral changes. A negative teacher-coach relationship may *negatively* influence the implementation of an intervention.

Finally, these findings suggest coaching can operate as a powerful tool for more than just predicting teacher practice. Positive teacher-coach alliance may also reduce tension, or job burnout, among teachers when they are implementing new programs or practices. That is, even under conditions in which high levels of stress may exist (e.g., as teachers attempt to change practices and implement new programs), it seems positive teacher-coach alliance may serve as a protective factor during situations of change or in a climate of high stress. This finding echoes results by Aarons, Somerfeld, Hecht, Silovsky, & Chaffin (2009) in a study on coaching in the mental health arena.

Purpose of the Study

Taken together, this research suggests teacher-coach alliance plays more than an ancillary role in one outcome of coaching: improved teacher practice. In fact, alliance, like observation, modeling, and providing feedback may serve as a fourth critical component of coaching. Therefore, engaging in strategies to build alliance may be as essential to improving teacher practice as engaging in observations, modeling, and providing feedback. See Figure 1.

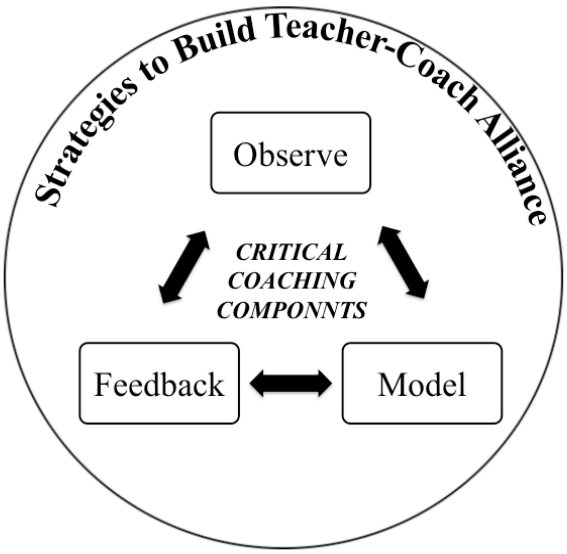

Figure 1. Proposed critical components of coaching. This figure shows existing critical coaching components of on-going cycles of observation, modeling, and feedback and suggests strategies to build alliance as a fourth critical component.

While Wehby et al.'s (201) findings provide evidence for the association between alliance and teacher practice, we currently lack causal links between coaching practice that incorporates efforts to build alliance and teacher practice. Subsequently, it is unknown if coaches' use of alliance-building strategies, like the use of other coaching components of observation, modeling, and providing feedback, directly impacts teacher practice. This study hypothesizes such causal links exist, with systematic attempts to shift coaches' use of alliance strategies leading to shifts in teacher practice. The purpose of the current study is to establish causal links between coaching practice that incorporates alliance-building strategies and teacher practice by drawing upon a unique intervention, The Teacher-Coach Feedback and Analysis System (TCFAS) to improve coach practice, thereby leading to improved practice among teachers. Under this system, teachers provide feedback to coaches about coaching sessions, specifically commenting on coaches' efforts to build alliance. Coaches then analyze this feedback, generate brief action plans to change future coaching sessions, and engage in new coaching cycles.

Theory of Change

This study hypothesizes teacher feedback on coaching, followed by an analysis of this feedback by the coach, helps the coach improve coaching. Improved coaching includes increased use of alliance-building strategies, which in turn leads to improved teacher fidelity of practice. See Figure 2.

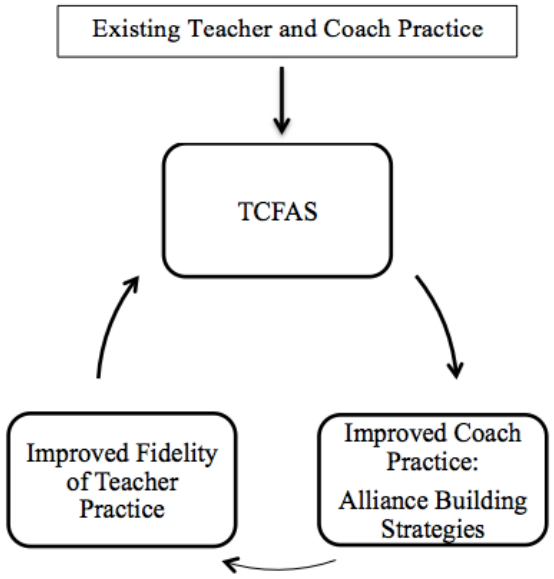

Figure 2. The hypothesis of the study. Teacher-coach dyads use The Teacher-Coach Feedback & Analysis System (TCFAS) after coaching sessions. Under this system, teachers provide feedback to coaches about coaching sessions. Coaches analyze feedback and develop an action plan to adjust future coaching sessions. Use of the TCFAS leads to shifts in coaches' use of alliance building strategies, which in turn leads to shifts in teacher fidelity of practice.

This theory of change draws upon a body of research from the area of study known as Implementation Science. This research suggests that a system of feedback and analysis plays an important role in effective implementation, particularly as a tool for improving coaches' use of alliance-building strategies such that teachers' improve practice. The following section will provide a synthesis of research on effective implementation and will discuss the role of feedback and analysis in effective implementation. This will be followed by a discussion of why such a system of feedback and analysis is needed when coaching is put into place in schools. Next, this chapter will describe why this system should target alliance between teachers and coaches, with

opportunities for coaches to draw upon alliance-building strategies during coaching sessions. The chapter will then conclude with the research questions guiding the study.

Effective implementation: The how is as important as the what. Implementation science is the study of how programs, practices, and innovations are put into place within organizations (Eccles & Mittman, 2006). This research suggests that effective programs-in this case, coaching- must consider many variables in order to achieve the desired outcomes -- improved teacher practice and student outcomes. This is the idea conceptualizing by Fixsen, et al. (2005) and Fixsen, Blase, Metz, & Van Dyke (2013) that improved outcomes will not arise when ineffective interventions are paired with effective implementation efforts or when effective interventions are paired with ineffective implementation efforts. Echoing this thought, Damschroder, Aron, Kirsh, Alexander, & Lowery (2009) note that effective implementation is "the critical gateway between an organizational decision to adopt an intervention and the routine use of that intervention" (p. 3). The implication of these ideas is that *how* implementation occurs matters just as much as *what* is being implemented (Fixsen, et al., 2005).

This means that even the most effacious form of coaching (i.e., one that relies upon the critical coaching components of observation, modeling, providing feedback, and alliance-building strategies) will not lead to improved teacher practice and student outcomes if attention to the variables of implementation are not addressed. As noted by Guskey (2002), "professional development programs are *systematic efforts* to bring about change in the classroom practice of teachers, in their attitudes and beliefs, and in the learning outcomes of students" (p.381, emphasis added). Klingner, et al. (2013) similarly note that "research must not only develop strong PD models but should also provide insight into what it takes to implement PD in effective ways" (p 203). While these researchers speak of PD in general, and not coaching specifically, the

same ideas apply: Without consideration for how to best put into place effective coaching models, the practices and programs that are developed with the intention of improving student outcomes will not reach students.

Implementation phases, goals, and domains. Given the importance of attending to effective implementation when coaching is put into place in schools, it is important to clarify what is know about effective implementation so that these conclusions can be considered when coaching is put into place in schools. Research from health care, social work, and education suggests that implementation of *any* program, practice, or innovation can actually be a fairly predictable-albeit complex- process, with specific components involved regardless of the setting (Damschroder, et al., 2009; Durlak & DuPre, 2008; Fixsen, et al., 2005; Greenhalgh, et al., 2004). Several researchers have thus created frameworks that serve to illuminate *how* implementation of programs, practices, and innovations occur. Collectively, these frameworks illustrate that effective implementation typically occurs in a series of iterative phases that include exploration and adoption, installation, initial implementation, and full implementation, which has also been referred to as a phase of evaluating and sustaining. While these phases are common to all implementation frameworks, each organization will cycle through these phases in a non-linear and recursive manner, working to achieve particular goals associated with each stage (Fixsen, et al., 2005; Damschroder, et al., 2009; Greenhalgh, et al., 2004).

Yet effective implementation is more than just cycling through phases while working to achieve specific goals. Effective implementation also involves active attention to an extensive host of important variables. These variables have been categorized by Damschroder, et al. (2009) into five "domains", each of which must be considered across the phases of implementation. These domains include: 1) the intervention characteristics (i.e., the attributes of interventions); 2)

the setting *outside* of the school, such as the community or even the district; 3) the setting *within* the school, including the school culture; 4) the characteristics of the individuals within the organization (e.g., the knowledge and beliefs of stakeholders, their self-efficacy); and 5) the processes involved with putting a program into place, including how different groups of people (e.g., leaders, external change agents, and champions) use systems of feedback and analysis to evaluate the impact of the program (Damschroder, et al., 2009). Further, Damschroder, et al. (2009) note that these domains, and the variables housed within these domains, shape and influence the degree to which implementation efforts will be successful or unsuccessful. This suggests goal-related questions posed during phases should also address variables associated with each domain of implementation.

The role of feedback and analysis in effective implementation. Related to this last point, research from Implementation Science reveal the need for greater attention to select variables when engaging in implementation efforts when programs, practices, and innovations are put into place (Damschroder, et al., 2009; Greenhalgh, et al., 2004). In particular, a system of feedback and analysis is considered to be an essential variable of effective implementation in at least one systematic review of implementation (Greenhalgh, et al., 2004) and across a multitude of implementation frameworks from various fields, including education (Fixsen, et al., 2005), mental health (Damschroder, et al. 2009), and nursing (Kitson, et al., 1998). Damschroder et al. (2009) notes that feedback and analysis systems are an oft-overlooked aspect of the fifth domain of implementation, despite research that suggests collecting and using qualitative and quantitative data (e.g., reports, anecdotes, and graphs) is a necessary aspect of effective implementation. Such information serves to offer otherwise unavailable information about implementation quality and progress. Greenhalgh, et al. (2004) echoes the point that feedback

and analysis are crucial aspects of effective information: "If the organization has tight systems and appropriate skills in place to monitor and evaluate the impact of the innovation, the innovation is more likely to be assimilated and sustained" (p. 608).

Importantly, across these frameworks, systems of feedback and analysis are defined as multi-directional, where practitioners involved with the use of new programs and practices, including those who are most directly involved in day-to-day use (Damschroder, et al., 2009; Greenhalgh, et al., 2004), provide feedback to each other and use feedback to determine the impact of subsequent implementation efforts. As noted by Greenhalgh, et al. (2004).

> People are not passive recipients of innovation. Rather, they seek innovations, experiment with them, evaluate them, find (or fail to find) meaning it them, develop feelings (positive or negative) about them, challenge them, worry about them, complain about them, 'work around' them, gain experience with them, modify them to fit particular tasks, and try to improve or redesign them- often through dialogue with others. (p. 598)

The need for feedback and analysis system in coaching. These points suggest a system of feedback and analysis may be similarly crucial when implementing coaching. In fact, dating back to nearly thirty years, coaching literature maintains the importance of establishing a system of feedback and analysis on coaching (Joyce & Showers, 1996) and more recent literature continues to press for such systems to be in place prior to the use of coaching (Bean & Isler, 2008; March & Gaunt, 2013; NIRN, 2012; Guskey, 2002). "Coaches need to receive feedback on the work that they do and coaches need to be self-reflective" (Fisher, 2012, p. 4).

Moreover, as research from implementation science suggests, it is important that feedback and analysis systems incorporate information from those who are directly involved

(i.e., teachers). This point is especially crucial, given that Guskey (2002) indicates feedback, particularly the perceptions of teachers, is a foundational aspect of information within a comprehensive system of feedback on PD. In fact, Guskey (2002) notes feedback that incorporates information about teachers' perceptions about PD is "usually a necessary prerequisite to higher level evaluation" that can be used to later "help improve the design and delivery [of PD] in valid ways" (p. 5). This point is echoed by Fisher (2012), who argues that effective coaches collect feedback from teachers to improve teacher practice and student outcomes. As the direct recipients of PD teachers are in a unique position to provide such information, which can be used to guide future decisions about PD.

Despite these points, a bi-directional system of feedback and analysis rarely exists when coaching is put into place in schools (Joyce & Showers, 1996; Guskey, 2002). As Fisher (2012) notes, "In too many places, coaching is initiated without a plan…" (p. 4). Moreover, when systems of feedback *are* used, feedback typically occurs *from* the coach *to* the teacher, creating a unidirectional flow of information rather than a bidirectional flow where teachers and coaches offer each other feedback. Thus, when coaching is put into place in schools, very little systematic support is available to help clarify the impact of coaching. When this occurs, coaches are left to guess how their practice impacts teachers and students. That is**,** coaches and teachers rarely receive information about their unique coaching situation, including the actual coaching behaviors utilized by the coach or the degree to which coaching is impacting teaching practice or student outcomes.

Finally, bi-directional systems of feedback and analysis in coaching are rarely systematically examined. As noted by Gallucci, et al. (2010), "There is an emphasis in the research on interpersonal skills, but there are few studies of structural supports that might assist

coaches, for example, in overcoming norms that work against peer critique. Coaches are often left to overcome such obstacles on their own" (p. 924). Yet without feedback from teachers on coaching, the impact of coaching on teacher practice will simply be unclear. Subsequently, this suggests two ideas: 1) that coaching, like any other program or practice put into place in a school, may benefit from a feedback and analysis system that incorporates information in a multi-directional manner (i.e., teacher to coach; coach to teacher) rather than a unidirectional manner (i.e., coach to teacher); and 2) it is important to examine such a system in coaching.

The need for a system of feedback and analysis focused on alliance. With the importance of a system of feedback and analysis thus established, what remains at question is *what* aspect of coaching should teachers provide feedback on to coaches. In order to address this question, research from the area of mental health is important to consider. Research from this field suggests that feedback from the client to the therapist on alliance is essential, as "[p]sychotherapists who assume or intuit their client's perceptions of relationship satisfaction and treatment success are frequently inaccurate" (Norcross and Wampold, 2011, p. 101). It seems that collecting and analyzing feedback on alliance "…leads to increased opportunities to reestablish collaboration, improve the relationship, modify technical strategies, and avoid premature termination" (p.99). Moreover, these authors suggest a system of feedback and analysis about alliance plays a particularly important role in one key part of the therapeutic process: improving patient outcomes (Norcross and Wampold, 2011; Horvath, Flückiger, Del Re, & Symonds, 2011). It seems that collecting and using patient feedback- particularly about alliance- is so powerful in influencing patient outcomes that these authors refer to the process as a "demonstrably effective practice" in mental health therapy, in contrast to therapies that are "probably effective" or "promising but lack sufficient research to judge" (p. 99).

Interestingly, mental health researchers specifically recommend therapists collect feedback on several aspects of alliance, including: 1) the client's overall satisfaction of treatment, particularly if needs and goals are being met; 2) the client's view that the therapist has the skills to help the client and will provide meaningful feedback about progress; 3) the client's agreement with the therapeutic goals; and 4) the degree to which the therapist conveys a non-judgmental, trusting bond with the client and communicates effectively. These are key factors that shape alliance. As such, it is important to obtain feedback from clients on these key factors. Once obtained, this feedback can be used to determine which alliance-building strategies may be needed in order to improve future therapeutic sessions.

Taken together, this research suggests feedback from teachers to coaches, like feedback from clients to therapists, potentially offers important information about how coaches can more effectively work with teachers. Like therapists without client information, coaches who lack teacher feedback, particularly about factors of alliance, will not have a complete set of data that can be used to analyze the impact of their work with teachers. Specifically, it cannot be clearly known how teachers are responding to coaching. Coaches will also not know how to adjust their practice such that teachers demonstrate improvements in their practice. Therefore, it is important that coaches draw upon a feedback system that provides information from teachers to coaches on coaches' use of alliance-building strategies.

Research Question

This study aims to further what is known about the impact of coaches' alliance-building efforts on teacher practice. While alliance is commonly viewed as an important variable influencing the effectiveness of coaching and correlates to teacher practice, the field is only beginning to systematically examine the effects of directly intervening on coaches' use of

alliance strategies such that changes in teacher practice occur. Therefore, it is unknown how teacher implementation of practice shifts when coaching draws upon strategies focused on alliance. Links between alliance-building strategies in coach practice and teacher practice offer insight into the role of alliance-building strategies as a critical component of coaching. Subsequently, one research question will be addressed in this study: What are the effects of the TCFAS on coach practice, teacher practice, and alliance?

CHAPTER 3

METHOD

This chapter describes the methods used to examine the research question associated with this study. These methods are detailed in three overall sections: 1) an overview of the design of the study; 2) a description of the experimental stage of the study; and, 3) a description of the qualitative stage of the study. Within the section on the experimental stage, the setting, participants, materials, independent variable, data collection and analysis (including the dependent variables, interobserver agreement and treatment fidelity), experimental design, and procedures will be explicated. Within the section on the qualitative portion of the study, the measure of social validity will be described, as well as the method, materials, and data analytic procedures.

Study Overview

This study employed a sequential mixed methods design (Creswell & Clark, 2007) beginning with a multiple baseline design across participants (Kazdin, 2011). Upon completion of the experimental stage of the study, one-on-one interviews were conducted with teachers and coaches. Data collection and analysis occurred during each stage of the study, with triangulation occurring at the end of the study such that final conclusions about coach practice, teacher practice, and alliance could be shaped. See Figure 3.

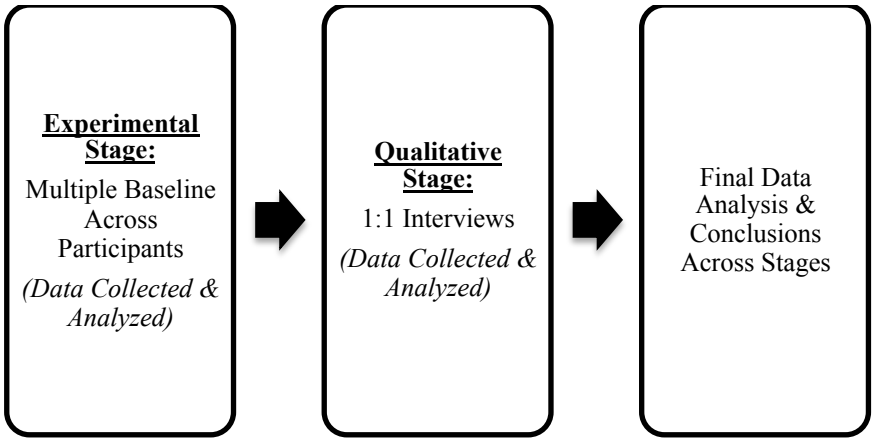

Figure 3. Sequential mixed methods design.

Procedurally speaking, data were collected and analyzed for each design and then triangulated such that final conclusions could be shaped. Stage 1 was the experimental phase that drew upon a multiple baseline across participants design. Stage 2 began after the conclusion of Stage 1, drawing upon one-on-one interviews with teachers and coaches. This design was used to "confirm and corroborate data; to deepen analysis such that the research questions can more fully addressed; and, to explore potentially unexamined aspects related to the topics under study" (Miles & Huberman, 2004, p. 41). For example, while the experimental stage of the study allowed for causal conclusions to be drawn about the effects of feedback on coach practice and teacher practice, the qualitative portion of this study allowed for deeper investigation into the alliance between teachers and coaches as well as relationship between feedback, coach practice, teacher practice, and alliance.

Setting. All participants worked at the elementary level in an urban school district located just outside of a major city in the Pacific Northwest. This district served just fewer than 20,000 students in grades K-12 in nearly 40 schools. Around 730 students were enrolled at Summerset Elementary, the site in which the study occurred (all names have been changed). Summerset was a diversely populated school, with around 20% of students identified as

Caucasian and another 20% of students identified as Asian or Pacific Islander. 7% of students were Black, 1% were American Indian/Alaska Native, and Hispanic students comprised 42% of the student population. Over 30% of students were enrolled in the school's bilingual education programs and nearly 72% of students received free or reduced price lunches.

The elementary school contained 30 classrooms and just over 70 staff members. Two general education teachers worked at each grade level, averaging 25 students per classroom. Three special education teachers worked at Summerset, including in one self-contained setting with ten students and two resource room teachers serving roughly 25 students throughout the course of the school day. Many classrooms received support from para-educators and followed a typical elementary school schedule that included instruction in reading and other literacy related subjects (e.g., spelling, writing), math, science, social studies, and PE.

Summerset Elementary implemented Tier 1, 2, and 3 components of School Wide Positive Behavior Intervention Supports (SWPBIS; Sugai & Horner, 2006) for more than five years. As such, the school scheduled a time and place for staff members to work on the overall implementation of SWPBIS. For example, in previous years the school adopted and used a common set of behavioral expectations and consequences and implemented some interventions to address mild and moderate student behavioral concerns. A team consisting of staff members led these efforts to implement Tier 1 and Tier 2 supports in prior years.

Participants. Participants for this study included 3 teacher-coach dyads, each consisting of a general education teacher and a Tier 3 team behavioral coach. Four years prior to the beginning of the current study, Summerset established a Tier 3 team consisting of many of the same staff members who worked on SWPBIS implementation efforts in prior years. As the Tier 3 team, these staff members began providing support to teachers on the use of intensive

behavioral interventions for students showing chronic challenging behavior and whose behavior was not influenced by Tiers 1 or 2 interventions. Summerset's Tier 3 team consisted of eight team members, including the school's principal, assistant principal, one school psychologist, a counselor, one behavioral interventionist, and three special education teachers. The counselor also served as the coordinator of the team. Two of the three teachers on the team worked in the resource room setting while the third teacher taught in grades 4, 5, and 6 with students with emotional/behavioral disabilities. The behavior interventionist on the team was a former general education teacher and currently worked as the school dean.

During the prior academic year (2013-2014), all of the coaches from Summerset's Tier 3 team received several trainings in the use of behavioral strategies (i.e., FBAs, behavior intervention strategies, conducting classroom check-ups) and one 30-minute training on how to teach a general education teacher how to use a Tier 3 behavioral intervention practice. However, prior trainings did not provide coaches with information about conducting coaching cycles (i.e., how to observe, model, and provide feedback) or using strategies to build teacher-coach alliance.

Coaches. Like all other Tier 3 coaches at Summerset Elementary, the three coaches participating in this study held other positions within the school. Tier 3 coaching duties were therefore considered to be in addition to primary job responsibilities. For example, one coach, Earnest, was a 33-year old bi-racial male of African American/Native American descent and served as the school psychologist. Earnest was in his first year in this role, although he interned at the school the year prior to the current study. In addition to working at Summerset Elementary, Earnest also worked at a high school within the same district up to three days a week.

The two other coaches participating in the study included Helen (a Caucasian female aged 39) and Maddy (a Caucasian female aged 42). Both coaches were certified teachers as well as Tier 3 coaches. However, Maddy held certification in special education and served as a teacher of students with emotional behavioral disorders while Helen worked as the school's behavior interventionist and dean. Maddy held 17 years of teaching experience. Helen, on the other hand, taught for just over 14 years in the general education setting and held two years of experience serving in her current role. Both teachers had five years of experience working as coaches on the Tier 3 Team. See Table 1.

General education teachers. The general education teachers participating in this study had a range of teaching experience. One kindergarten teacher, Connie, a 44-year-old Caucasian female, was in her third year of teaching primary-aged elementary students. The other two teachers, Jim and Mike, worked with students at the fourth and fifth grade level (respectively). Mike was a 33-year old Hispanic male in his first year of teaching while Jim, a 44-year old Caucasian male, held 2 years of experience.

While all participating teachers held Master's degrees with elementary education teaching certification, only one teacher (Connie) had requested assistance from the Tier 3 team prior to the current study. This indicated that the three general education teachers had limited experience in delivering behavior interventions for a student with the most intensive behaviors, as well as limited experience being coached by Tier 3 behavioral coaches. See Table 1.

Table 1
Demographic Information for Dyads of Teachers and Coaches

Dyad	Name	Role	Age	Experience
1	Connie	Teacher	44	3 years
	Maddy	Coach	42	17 years teaching; 5 years coaching
2	Jim	Teacher	44	2 years
	Earnest	Coach	33	1 year as school psychologist; 1 year coaching
3	Mike	Teacher	33	1 year
	Helen	Coach	39	14 years teaching; 2 years as interventionist/dean; 5 years coaching

Materials

Two types of materials were developed for this study: 1) professional development modules; and, 2) forms associated with the Teacher-Coach Feedback and Analysis System. While all materials were researcher created, the teacher-coach feedback form drew upon existing research from the area of coaching (Wehby, et al., 2012), alliance (Martin, Garske, & Davis, 2000), and implementation science (Damschroder, et al., 2009).

Professional development modules. Two professional development modules were developed by the lead researcher and provided to coaches. Both modules incorporated elements of effective PD, including: 1) presentation of theory; 2) descriptions of new practices or skills; 3) opportunities for participants to problem solve and discuss the use of new practices; 4) opportunities to show they have learned content from modules (Yoon, et al., 2007). The two modules consisted of power-points with accompanying handouts. While all coaches participating in the study attended the professional development on coaching, module 2 was presented to the coach and teacher participants in a one-on-one session with the lead researcher. See Appendix A for agendas and handouts.

Module 1: The critical components of coaching. This module aimed to accomplish two purposes. The first purpose of this module was to ensure all coaches knew how to use coaching cycles that involved the critical coaching components of on-going cycles of observation, modeling, and providing feedback. Each critical component was defined and examples illustrated how to use each component during a coaching session. A rationale explicated the importance of each component. Coaches were provided with opportunities to read two coaching scenarios, think about current and future coaching practice, and discuss scenarios with colleagues. The module concluded with a series of short answer questions about critical coaching components to ensure participants mastered content. The handout entitled *Training Agenda, Module 1* (Appendix A) listed these tasks for the participants. Another one-page handout, entitled *Effective Coaching Overview: Critical Components* summarized the content and served as a reference tool for coaches. See Appendix A.

Another purpose of this session was to ensure coaches knew how to introduce coaching to participating general education teachers. The module therefore also included an overview for how to conduct a preliminary meeting with a teacher. A third handout, entitled *Conducting the Preliminary Meeting with a Teacher,* summarized the steps within the preliminary meeting. See Appendix A. This preliminary meeting occurred after a coach had been assigned to a teacher, conducted a Functional Behavioral Analysis, and worked with the teacher to identify a behavioral intervention to use to address challenging behavior.

Module 2: Teacher-coach alliance & teacher-coach feedback & analysis system. This module consisted of training the coach and the teacher how to use the teacher-coach feedback and analysis system. As Module 2 consisted of the materials necessary to complete the intervention, this training occurred on an individual basis when a teacher-coach dyad moved out

of the baseline phase. Several handouts were used for this module to review content from the prior session and to prepare the coach for the intervention phase. The first handout was an agenda entitled *Training Agenda: Module 2.* This handout simply listed the tasks for the module. The second handout entitled *Module 2: Effective Coaching* summarized content from module 1. This handout also pictorially represented the steps of the TCFAS for the coach. See Appendix A. Note that while the coach was then introduced to the two TCFAS forms: the Teacher-Coach Feedback Form (see Appendix B) and the Coach Action Plan (see Appendix C), these forms will be described in the upcoming section.

A reference handout entitled *Module 2: Coaching Strategies: Building Alliance* (see Appendix A) was also provided to coaches. Specifically, this handout defined key factors shaping alliance (Martin, Garske, & Davis, 2000), including alliance between teachers and coaches (Gallucci, et al., 2010; Ippolito, 2010; Matsumura, Garnier, & Resnick, 2010; Neuman & Wright, 2010; Walpole, et al., 2010; Wehby, et al., 2012). These factors include: 1) how to use effective interpersonal skills, including building trusting bonds and effective communication; 2) how to convey expertise, including providing feedback to the teacher about his or her use of the behavioral interventions and conveying a deep knowledge of Tier 3 behavioral interventions; and, 3) how to ensure coaching remains collaborative, including meeting the unique needs and goals of teachers. Strategies to build alliance in these areas were also listed on the handout. Each strategy was matched with a factor shaping alliance in order to clarify how different strategies could be used to address specific alliance factors.

After reviewing each factor and alliance-building strategies, the lead researcher and the coach discussed the examples provided on that handout. The coach was then provided with two coaching scenarios. The purpose of these scenarios was to help the coach think about alliance

strategies as they related to his or her existing coaching practice. Using a sample feedback form, the coach practiced analyzing teacher feedback and generating an action plan to include alliance-building strategies. See Appendix A for module 2 scenarios. Questions were addressed to ensure the coach knew how to analyze teacher feedback, generate a coaching action plan that incorporated strategies to improve alliance, and use alliance-building strategies with the teacher during subsequent coaching sessions.

Teacher-coach feedback and analysis system.

Teacher-coach feedback form. This feedback form consisted of a series of questions about the coaching sessions, particularly probing for feedback from teachers about factors related to alliance and coaches' use of alliance-building strategies. Table 2 lists each question on the form and indicates which aspects of alliance are addressed within the questions. See also Appendix B.

Table 2
Teacher-Coach Feedback Form

Question	Alliance Factor
1. Think about your use of the steps of the intervention (see back side) and the most recent coaching session. a. What was helpful? b. How can I be more helpful in our next session?	Expertise; Collaboration; Interpersonal Skill
2. What have you accomplish this week in relation to your use of the steps of the intervention?	Collaboration; Expertise
3. What is a goal for next week in relation to your use of the intervention?	Collaboration; Expertise
4. In what ways did we effectively communicate? (e.g., active listening, understanding each other's perspective, maintaining confidentiality, etc.) a. How did this impact your use of the intervention steps?	Interpersonal Skill; Expertise

Teachers were first asked to think about his or her use of the behavioral intervention in the classroom, to indicate what was helpful about the coaching session, and then to indicate how the coach could be more helpful. This first question (and the two related probes) were asked to generate comments from the teacher on the general or overall thoughts on the coaching session, including factors shaping alliance (e.g., trust between teachers and coaches; how the behavioral expertise of the coach helped the teacher; how feedback from the coach on the teacher's use of the intervention helped the teacher), the overall coaching session, or the behavioral intervention. The first question also allowed teachers to express feedback on coaching that was otherwise not included in subsequent questions.

The second and third questions on feedback form asked teachers to comment on what the teacher hoped to accomplish from the coaching session and what the teacher's goal was for future sessions. These questions aimed to provide information about two factors of alliance and their related alliance-building strategies: 1) the degree to which teachers' current needs and goals were met while uncovering the teacher's goal for the future (i.e., collaboration); and 2) the degree to which the coach demonstrated expertise and provided meaningful feedback to the teacher (i.e., expertise). The second question also aimed to uncover the degree to which the teacher understood the steps of the intervention. Based on how teachers responded, this information could allow the coach to demonstrate expertise in the intervention. This was because if the teacher was not able to articulate which steps of the intervention were being used, the coach could explicitly explain the steps of the intervention until the teacher began to show understanding of those intervention steps.

The final question on the feedback form asked the teacher to comment on the communication occurring during the coaching session, with specific examples provided of what

effective communication entailed (e.g., active listening, understanding the perspectives of others, providing non-judgmental suggestions, and asking open questions, and maintaining confidentiality). This question was targeted for information about effective communication as it shapes alliance between teachers and coaches. This question also included a follow-up probe on how communication influenced their use of the intervention program. The purpose of this probe was to help the coach to make linkages between communication (a factor of alliance under the category of interpersonal skills), coach and teacher knowledge about how to use the intervention, and teacher practice.

Analysis of teacher feedback form & coach action planning. The second part of the Teacher-Coach Feedback and Analysis System required the coach analyze feedback from the teacher and generate an action plan to be used in subsequent coaching sessions by drawing on the strategies listed in the handout *Coaching Strategies: Building Alliance.* The Coach Action Plan is summarized in Table 3 and Appendix C.

Table 3

Coach Action Plan

Analysis

1. Reflect on the feedback you received from the teacher.

a) What are areas of strength in the coaching sessions?

b) In what ways might you improve upcoming coaching sessions? Why?

c) How did your action plan from last week impact the teacher's use of the interventions?

Action Plan

1) Come up with 1-3 specific steps you might take to improve your coaching sessions. These steps could be the same or different from prior weeks, based on feedback from your teacher. Refer to handout titled *Module 2, Coaching Strategies: Building Alliance.*

a) Step

b) Step

c) Step

First, the coach analyzed feedback from the teacher by reading and thinking about the comments provided on the Teacher-Coach Feedback Form. The coach was specifically directed to identify areas of strength with coaching, how coaching could be improved by the use of alliance-building strategies, and how action plans from prior sessions seemed to influence teacher practice. Next, the coach developed an action plan using the alliance strategies discussed in the professional development model (see Appendix A).

After the coach generated an action plan, this plan was emailed or physically delivered to the researcher, along with the accompanying Teacher-Coach Feedback Form. Submitting the action plan and the teacher-coach feedback form helped to ensure the coach was regularly coaching, getting feedback from the teacher on the coaching session, analyzing information from the feedback form to shape subsequent coaching sessions, and attempting to improve coach practice by drawing upon alliance-building strategies. This information was also used to determine treatment fidelity, as described in the next section and in Appendix D.

Behavioral Measures

Independent variable. The independent variable was a system of feedback and analysis on coaching, referred to as the TCFAS (Teacher-Coach Feedback and Analysis System). First, the teacher completed a feedback form about a coaching session and provided that form to the coach. The coach then analyzed information from the teacher feedback form and generated an action plan to adjust future coaching sessions such that alliance-building strategies were used.

Dependent variables. This study included teacher dependent variables and coach dependent variables. One dependent variable, alliance, was used for both teachers and coaches. Additional teacher-related dependent variables included fidelity of practice on the use of a

behavioral intervention, praise, and reprimands. The other coach dependent variable included a measure of alliance-building strategies used during coaching feedback sessions.

Teacher-coach alliance. Teacher-coach alliance was measured using the Teacher/Consultant Alliance Scale included in the study by Wehby, et al. (2012). This scale is based on commonly used alliance scales from the field of mental health showing strong psychometric properties (e.g., the Vanderbilt Scales, Strupp & Binder, 1984; The Pennsylvania Scales, Luborsky, 1984; the Working Alliance Inventory, Horvath & Greenberg, 1986; as cited in Martin, Garske, & Davis, 2000). This measure was administered to teachers and coaches participating in the study.

The Teacher/Consultant Alliance Scale included 10 items about teacher-coach alliance. The scale intended to provide a measure of the participant's perception of the teacher-coach dynamic. Questions on this scale addressed factors that shape teacher-coach alliance, including collaboration (e.g., working towards common goals and needs), interpersonal skills (e.g., building trust; effective communication); and the expertise of the coach (e.g., knowledge of behavioral interventions). For example, a participant was asked to respond to the following: "The teacher/coach and I are working together collaboratively to improve the situation" (Wehby, et al., 2012). On this scale, a rating of 1 indicated that the item never occurred; a 2 indicated that the item seldom occurred; a 3 indicated that the item sometimes occurred; a 4 indicated that the item often occurred; and, 5 indicated that the item always occurred.

Teacher practice.

Fidelity of use of Tier 3 behavioral interventions. Fidelity of teacher practice was measured according to teachers' adherence to the steps within a behavioral intervention practice. Adherence has been defined as degree to which the most important program elements are used as

designed (Dusenbury, et al., 2004) and prior research on teacher fidelity and coaching has drawn upon this aspect of fidelity (e.g., Wehby, et al., 2012). For the current study, a behavioral plan was developed by the Tier 3 team (including coaches) and the general education teacher. This plan spelled out the behavioral intervention to be used by the general education teacher with the student needing Tier 3 support. A break card was a chosen practice for two of the three teacher participants (i.e., Connie and Mike) and providing choices was the behavioral intervention for the third teacher (Jim). The coach for each of these Tier 3 behavioral interventions developed a fidelity checklist and this was provided to the appropriate teacher. These lists were used to establish operational definitions for measuring teacher practice.

The break card system was determined to have four steps by the Tier 3 coaches working with Connie and Mike. These steps included: 1) presentation of the break card; 2) teaching expectations; 3) prompts to use the break card, regardless of student behavior; and 4) praise to the target student for asking to take a break or taking a break safely. It should be noted that these steps did not have to occur in chronological order but instead could occur in any sequence. The first step of the break card system was defined as visually presenting the break card to the student. Presenting the card to the student could include hanging the break card on the board or placing the card on the student's desk. Non-examples included pointing to the card to remind the student to use a break. Step two, teaching expectations, was defined as one or more verbal statement(s) by the teacher to the target student or groups of students that told or showed children how to engage in the desired task. It should be noted that "teaching expectations" was also defined as occurring only when desired student behavior occurred. If such statements were made while problem behavior occurred, statements were coded as reprimands. Further, these statements could be related to the use of the break card system *or* could simply be related to an

upcoming instructional task. For example, a teacher could say, "When we are reading, I expect everyone to be seated on the carpet in your assigned spot." or "Kyle, if you need to take a break, I expect that you give me a token to show me you need that break." Non-examples included reprimands, the use of attention-signals (e.g., a hand in the air), praise, or teaching behavior that fell into any other steps of the break card system. The third step was defined as any verbal statement or question made to prompt the student that he or she could take a break. A prompt could also be a physical gesture and these statements or gestures could occur regardless of the target student's behavior. For example, a teacher could state, "Remember, Kyle, you can take a break if you begin to get frustrated." or "You may take a break if you need to, Ginny.", or the teacher could ask the student, "Do you need to take a break?" Pointing to the card was also coded as a prompt. The fourth step was to provide praise to the student if he/she asked to take a break or if that student took a break without physical harm to any other person. This was defined as any verbal, gestural, or physical attempt made by the teacher to display satisfaction to the target student in response for the student's use of the break card system. Examples included, "Good job asking for a break!", "Good job taking a safe break!", or providing a sticker or tally to the student for asking to take a break. Non-examples included praise directed to the whole class or to any individual student that was unrelated to the break card system.

Jim used the other behavioral intervention, choices. Providing choices was determined to have four steps: 1) providing visual cues of expectations; 2) teaching expectations; 3) providing choices; and, 4) praising the target student in response to that student's use of choices. Like the break card system, these steps could occur in out of sequence. Further, step two (teaching expectations) was operationally defined in the same way as it was for the break card system. On the other hand, step one was operationally defined as providing visual cue of how to engage in

different classroom tasks. Examples included providing laminated pictures of students appropriately engaged in partner reading or independent work. Or, a poster hanging on the wall could be used as pictoral cue of how to engage in the expected task. The third step was defined as any verbal reminder by the teacher to the target student to engage in one of two tasks. This step could occur regardless of whether or not problem behavior was occurring. For example, Jim could state to the Tier 3 student, "You can sit here or you can sit there during math instruction." or "Do you want to do math or reading?" The final step was operationally defined as any verbal, gestural, or physical attempt by the teacher to display satisfaction in response to the target student's use of the choice system. For example, Jim could state to the Tier 3 student, "Good job choosing a seat!" or "Nice work sitting in your spot on the carpet." Non-examples included praise directed to the whole class or to any individual student (including the Tier 3 student) that was unrelated to choosing between provided options.

Praise and reprimands. Praise and reprimands were also used as teacher dependent variables. These two variables were chosen based on prior research indicating that students with challenging behavior benefit from increase praise and reduced reprimands, particularly when in the general education setting (Duchaine, Jolivette, & Fredrick, 2011; Sutherland, Wehby, & Copeland, 2000; Reinke, Lewis-Palmer, & Merrell, 2008). Praise was operationally defined as any verbal or gestural attempt by the teacher to display satisfaction in response to any student behavior. Praise also included the use of tangibles to students to show approval. Examples included a teacher statement of "Micah, good job joining the group for reading!", a tally mark on the board when a student met a behavioral expectation, or the issuance of a sticker to a student for following directions. Reprimands were defined as verbal statements or gestures by the teacher to display disapproval in response to any student behavior. Examples included verbal

statements such as, “Stop that!” or “I don’t see students sitting crisscross, apple-sauce.” Gestures included putting a finger to the lips to indicate silence or taking away an item (e.g., a toy). Non-examples included teaching expectations or using an attention signal when desired student behavior was occurring.

Coach practice. The coach dependent variable was a measure of the comments made by the coach during coaching sessions that represented alliance-building strategies. As a part of each coaching session, coaches met with the teacher to provide feedback. During this session, the coach drew upon alliance-building strategies learned from the Module 2 training. Strategies were broken into four categories based on the factors that shape alliance. These categories included: 1) expertise in providing feedback to the teacher about his or her use of behavioral interventions; 2) expertise in behavioral interventions and concepts; 3) collaboration; and 4) interpersonal skills. Expertise in providing intervention feedback was operationally defined as comments made by the coach to the teacher about that teacher’s practice. Examples of intervention feedback included statements by the coach to the teacher such as, “Connie, you praised the students five times during my ten minute observation.” Other examples included, “Mike, you reprimanded students three times!” or “Good job using the break card today!” Non-examples included statements about student behavior or questions about teacher practice. Expertise in behavior was defined as comments made by the coach about student behavior. These comments could be descriptions of student behavior or explanations about student behavior. Examples included comments made by the coach such as “ Today Ginny threw books across the room because she was angry. ” Other examples included comments such as “When Kyle asks for breaks, it’s important to give him those breaks.” or “The students seem to like the tallies on the board.” Non-examples included comments that provided feedback about the

teacher's practice, comments about the teacher's goal or needs, or summarizations of comments made by the teacher. Collaboration was defined as comments made by the coach about the teacher's goals, needs, or the teachers' future plans for use of behavioral practices. Collaboration also included comments (or questions) that expressed that the coach wanted to help the teacher or that they were working as a team. Examples included the following: "Let's talk about your goal to increase praise.", "How do you want to start using the break card next week?, "How can I help you?", or "We're in this together!" Finally, interpersonal skills were operationally defined as statements greater than one word made by the coach to show that he or she was listening to the teacher. Examples included statements that summarized teacher comments such as "What I hear you saying is that….", "This is hard!", "So, you noticed that students followed directions less when you reprimanded them more. " Non-examples included verbalizations such as "uh-huh", or "yes" because of concerns with frequency and because they would not necessarily represent that the coach was actively listening to the teacher.

Data Collection and Analysis

In addition to the descriptions below, Table 4 provides a summary of data collection and analytic procedures for the experimental and qualitative portions of the study. Additionally, Appendix D includes all coding manuals, coding forms, and formulas used to calculate teacher and coach practice.

Teacher-coach alliance. Scores on the Teacher-Coach Alliance Scale were calculated according to the same procedures outlined in Wehby, et al. (2012). That is, a percentage was calculated based on the total points given out of total possible points. For example, if a teacher responded with a "2" to 9 items, the total number of points given would be 18. This sum was

then divided by 45 to result in a percentage of 40%. This percentage served to represent how participants perceived the teacher-coach relationship. See Appendix D.

Teacher practice. Each teacher was video recorded to capture his or her use of a behavioral intervention, praise, and reprimands. Up to five times each week, each teacher participating in the study was video-recorded for up to ten minutes while teaching students in the general education classroom setting. These recordings occurred around the same time each day and typically occurred during the same instructional activity. For example, one of the teachers (Connie) was recorded in the morning while transitioning kindergarten students from one activity to another activity, most commonly from an independent math activity to providing teacher-directed literacy instruction. Students typically sat on the floor at the front of the room for the literacy portion of the lesson or at their desks. In another teacher's 5th grade class (Mike), students typically sat on the carpet at the front of the room while he provided teacher-directed math instruction from his desk. This instruction occurred in mid-morning. Jim, the third teacher participant, provided teacher-directed math or science instruction to his 4th grade students while they either sat at their desks or on the carpet at the front of the room. Like Mike, this instruction occurred mid-morning.

Fidelity of use of behavioral interventions. Across all teachers, each video recording was coded on a 15-second interval system. To obtain the percentage of fidelity of practice for each session, the number of intervention steps used by the teacher across all intervals was summed. The sum was divided by the total number of intervals and multiplied by 100. This yielded a percentage, which was graphed as the teacher dependent variable for each recorded session. See Appendix D for coding manuals, coding forms, and formulas for calculating fidelity of practice.

Praise and reprimands.

Each video-recorded teaching session was coded for praise and reprimands using a 15-second interval system. For praise, the total number of intervals in which praise was observed was divided by the total number of intervals. This yielded a quotient that was then multiplied by 100 to obtain the percentage of praise. This same formula was used for reprimands. For example, in a 10-minute video recording consisting of 40 intervals, praise occurred in 5 intervals while reprimands occurred in 10 intervals. This resulted in the percentage of praise at 12.5% and reprimands at 25%. These percentages were graphed across the baseline and intervention phases of the study. See Appendix D.

Coach practice: Alliance-building strategies. Each coaching session, lasting between 5-15 minutes during a non-instructional time of the day, was audio recorded and coded for the percentage of four categories of alliance-building strategies used by the coach. These categories included: 1) expertise in providing feedback about the teacher's use of the intervention; 2) expertise in behavior; 3) collaboration; and 4) interpersonal skills. For each category, the number strategies used by the coach across all intervals was summed. This sum was divided by the total number of intervals and multiplied by 100. This resulted in a percentage of alliance-building strategies for each category used by the coach per interval for each session. For example, in a 10 minute coaching feedback session (i.e., 40 intervals possible), a coach used behavioral expertise on 20 occasions and collaboration on 2 occasions. This meant the coach showed behavioral expertise in 50% of the session intervals and collaboration in 5% of the intervals in the session. The percentages for each category of alliance-building strategies were calculated during the baseline phase and the intervention phase to show how alliance-building efforts changed over time. These data were presented in graphs for each coach (see Figures 4-6).

Refer to Appendix D for the coding manual, coding form, and formula used to calculate coach practice.

Interobserver Agreement

Interobserver agreement (IOA) was conducted on 20% of the sessions across the baseline and intervention phases as recommended by Kratochwill, et al. (2012). For both coach and teacher practice, recordings across phases were viewed, coded, and compared for point-by-point agreement between at least two coders. Specifically, every interval for a given coding form was examined. Any differences in coding were counted as disagreements. These disagreements were summed and then subtracted from the total number of intervals for the session. This produced the number of agreements per session. The total number of agreements was divided by the total number of intervals (i.e., agreements plus disagreements). This yielded a quotient that was then multiplied by 100 to produce a percentage of IOA. See Table 5.

Treatment Fidelity

The purpose of treatment fidelity was to ensure all of the participants received the intervention throughout intervention phases of the study (Kazdin, 2011). Therefore, treatment fidelity measures were conducted for all of the coaching sessions throughout the intervention phase to ensure teachers were coached and the TCFAS was being used. For each of the coaching sessions during this phase, the teacher was expected to provide a completed teacher feedback form to his or her coach. The coach was then expected to complete a coach action based on the teacher's feedback that drew upon strategies to build alliance. Then, the teacher-coach dyad met and recorded their coaching session. Coaches were expected to use at least one alliance-building strategy during each coaching session.

For each dyad, the number of these steps completed for each coaching session was calculated. The total number of these steps occurring per coaching session was divided by three and then multiplied by 100 to result in a percentage of treatment fidelity. Then, a mean was calculated to show the average percentage of treatment fidelity across intervention phase coaching sessions. These data have been compiled in Table 9, as well as Appendix D.

Table 4

Data Collection and Analysis Summary: Sequential Mixed Methods Design

Experimental Stage

Key Construct	Measure	Collection	Analysis	Analysis Procedure
Teacher Fidelity of Behavioral Intervention	# steps completed in 15-second intervals	4-5/wk	Across phases	Visual analysis
Teacher Praise & Reprimands	# occurrences in 15-second intervals	4-5/wk	Across phases	Visual analysis
Coach Practice	% of alliance-building strategies per category in 15-second intervals	1/wk	Across phases	# of alliance strategies per category per interval/total # of intervals x 100
Teacher-Coach Alliance	Teacher-Coach Alliance Scale	1/wk	Across phases	Points/total possible points x 100
Treatment Fidelity of TCFAS[a]	Completeness of forms & recording of coach session with at least one alliance-building strategy	At least 20% of coaching sessions during intervention	Intervention phase	# of completed forms and coach recording/3 x 100; percent fidelity for each session averaged for total treatment fidelity per dyad
Interobserver Agreement	Teacher practice and coach practice	At least 20% of sessions each phase	Each phase	Point by point agreement by two coders (agreements/agreements + disagreements) x 100

Qualitative Stage

Key Construct	Measure	Collection	Analysis	Analysis Procedure
Theory of Change & Social Validity	1:1 interviews with teachers and coaches	After experimental stage	After experimental stage	Data reduction, display, conclusion drawing, verification

Notes. a= Teacher Coach Feedback & Analysis System

Experimental Design

This study used a multiple baseline across participants design (Kazdin, 2011) to examine the effects of the TCFAS on teacher-coach alliance, teacher practice, and coach practice. This design is an accepted single subject design option among social science researchers (Kazdin, 2011; Kratochwill, et al., 2012). Under this design, the experimental condition was introduced in a staggered and sequential fashion, called the "legs" of the study that occur after a baseline phase. Standard visual analysis procedures were used to determine phase changes and if an improved effect has been achieved as a result of the introduction of the IV (Kazdin, 2011; Kratochwill, et al., 2012). Under these visual analysis procedures, each phase consisted of at least three to five data points, with at least three attempts to show an effect of the intervention. The level, trend (i.e., slope), variability, immediacy of effect, overlap, and consistency of data patterns were examined, with attention to adjacent data points and data across phases (Kratochwill, et al., 2012).

Procedures

Pre-baseline. Prior to conducting the study, all coaches involved with the study participated in one professional development module. This module was to ensure all coaches received training on the critical components of coaching, including observation, modeling, and providing feedback. This module consisted of a power-point presentation with accompanying handouts. Coaches were provided with opportunities to read two coaching scenarios, think about current and future coaching practice, and discuss scenarios with colleagues. The module concluded with a series of short answer questions about critical coaching components to ensure participants mastered content. A one-page handout accompanied module 1, entitled *Effective Coaching Overview: Critical Components.* This handout summarized the content of this session

and served as a reference tool for coaches. See Appendix A. This training has also been described in the Materials section.

After completing this module, the coach conducted a preliminary meeting with the teacher in which the coach described the use of the Tier 3 intervention. Several steps of the Tier 3 process were completed prior to the preliminary meeting, including: 1) the teacher request for support; 2) a check for universal classroom management strategies; 3) the Functional-Behavioral Assessment (FBA); and 4) the identification of the behavioral intervention to be used by the teacher.

Baseline. After participating in the initial professional development module and conducting the first preliminary meeting with the teacher requesting support, all dyads began the baseline phase. During baseline coaches conducted "business as usual" coaching: the coach observed the teacher using the behavioral intervention and provided the typical coaching moves (observation and modeling). After each classroom observation, the teacher and coach met at a pre-determined time so that the coach could provide feedback to the teacher about his or her use of the behavioral interventions.

Intervention. Immediately prior to the intervention the teachers and coaches were trained on the use of 2 forms associated with the TCFAS (i.e., the teacher-coach feedback form, see Appendix B; and, the coach action plan, see Appendix C). This was the second professional development module of the study. As a part of this module, the lead researcher first met with the coach. At this meeting, the researcher presented information on why it was important to collect and use teacher feedback when coaching and how to adjust coaching based on teacher feedback by using alliance-building strategies. See handout entitled, *Module 2: Effective Coaching* (Appendix A). Then, the researcher presented a blank Teacher-Coach Feedback Form and a

blank Coach Action Plan to the coach and discussed each question on the forms. A completed Teacher-Coach Feedback Form with samples responses was then presented to the coach. The researcher asked the coach to summarize the sample feedback. Using this sample Teacher-Coach Feedback Form, the researcher and the coach practiced completing a Coach Action Plan. In order to do this, a handout, called *Coaching Strategies: Building Alliance (*Appendix A), was provided to the coach so that the coach could specifically list on the Action Plan which alliance-building strategies would be used to address teacher feedback. These were the steps of the TCFAS.

After module 2 was presented to a coach, the lead researcher met with the teacher working with the coach. The purpose of this meeting was to ensure that the teacher understood how and when to complete the teacher feedback form. At this meeting, the researcher reviewed the teacher-coach feedback form and responded to any questions posed by the teacher related to the form. The teacher was asked to complete a feedback form after each coaching feedback session and provide it to the coach prior to the next observation.

Coaching sessions with teacher-coach feedback and analysis system. The weekly coaching sessions were the same as those implemented during baseline except: 1) the teachers was expected to fill out the feedback form at the end of the coaching feedback session and 2) the coach analyzed the feedback form (after the coaching feedback session) and generated a short action plan to include alliance strategies in future coaching sessions. This action plan specifically stated how the coach planned to adjust coaching sessions by drawing upon strategies listed in the module 2 handout, "*Coaching Strategies: Building Alliance".*

For example, in response to the teacher feedback form questions, *"What was helpful today?" and "How could I be more helpful?"* one teacher responded it was helpful when the

coach provided the steps of the intervention to the teacher and that the teacher hoped to receive feedback on the use of praise. In response to the question, "*What is your goal related to the use of the intervention?"* the teacher responded that her goal was to increase praise to the target student. In response to the final question on the teacher feedback form (i.e., communication), the teacher responded that the coach and teacher listened to each other.

In response to this feedback, the coach determined a strength of coaching was that she was showing expertise in behavior (i.e., providing the steps of the intervention; a factor shaping alliance). As the teacher's goal was to increase praise to the target student, the coach also determined she could improve coaching by ensuring that feedback to the teacher focused on that teacher's use of praise. The coaches' action plan to meet the stated needs of the teacher (i.e., to provide more feedback about that teacher's use of praise) shows the use of alliance-building strategies related to collaboration and showing expertise in providing intervention feedback. This process of asking for feedback, analyzing feedback, and generating an action plan to improve coaching continued in subsequent coaching sessions. Note that the use of these alliance-building strategies could vary depending on the responses of the teacher.

When a stable trend and level of *teacher* performance was seen (i.e., percentage of fidelity of practice), the second teacher-coach pair moved out of the baseline phase and began the intervention phase. That is, the second coach used the TCFAS with one teacher in the same manner used by dyad 1. When a stable trend and level of *teacher* performance was seen in the second teacher, the third teacher-coach pair moved out of baseline and into the intervention phase. The same procedures were used for subsequent teacher-coach pairs.

Qualitative Stage

The qualitative stage of this study began after the completion of the multiple baseline design. This stage involved analysis of one-on-one interviews with teachers and coaches to better understand traditional aspects of social validity (Goldstein, 2014) as well as the theory of change guiding the study. See Appendix E.

Social validity. First, social validity has been defined as "the extent to which potential consumers of research and products judge them as useful and practical" (Wolf, 1978, as cited by Goldstein, 2014). This definition has been expanded to incorporate satisfaction, feasibility, and the degree to which valued behavior changes are easily perceived (Goldstein, 2014). Such measures of social validity can offer information "from the inside" (Miles and Huberman, 1994, p. 6) to more holistically and richly describe complex phenomena that are simultaneously studied using experimental methods. Perceptions, beliefs, attitudes, and thoughts among participants are collected as data, which in turn are qualitatively analyzed to draw meaning about processes that shape and influence variables under examination (Miles & Huberman, 1994; Schwartz, et al., 1995).

The measure of social validity for this study was structured to qualitatively explore these traditional aspects as related to the intervention, the TCFAS. Given that the TCFAS was likely an entirely new system for both teachers and coaches, it was important to understand participants' views on utility, feasibility, satisfaction, and degree to which behavior changes based on the use of the system are valuable. Questions therefore aimed to uncover such views about the social validity of the independent variable. Given the important role of feedback and analysis in effective implementation (Damschroder, et al., 2009; Greenhalgh, et al., 2004), the

measure of social validity allowed for the exploration of how teachers view the TCFAS in the context of SWPBIS coaching implementations.

Theory of change. An additional area was explored as a component of social validity: the theory of change guiding the study. The theory of change posited the use of the TCFAS led to shifts in coaching practice (i.e., the use of alliance-building strategies), resulting in shifts in teacher fidelity of practice. It was therefore important to more deeply explore relationships embedded within theory of change. Specific relationships to explore included: 1) how coach practice that drew upon alliance-building strategies shaped and influenced teacher practice; 2) how alliance changed over time in relation to any changes in coaching and teacher practice; and, 3) how feedback from the teacher to the coach shaped and influenced coaches and teachers. Such findings served to inform the hypothesis associated with the theory of change, complementing and potentially extending experimental data. For example, changes in coach practice to incorporate alliance-building strategies, changes in alliance, and teacher practice were discussed during interviews. Responses helped uncover how coach practice that drew upon alliance-building strategies changed as well as teacher practice. This theory of change thus served as the qualitative lens in which phenomena could be explored such that complexities could be better understood (Miles and Huberman, 1994).

Method

The current study used semi-structured, one-on-one interviews to collect social validity data as well as data related to the theory of change. Semi-structured, one-on-one interviews are private, conversational formats that allowed interviewees to provide contextual narratives of phenomena under examination (Kvale & Brickmann, 2009). Each participant was provided with the opportunity to respond to targeted questions so that their unique experiences could be

better understood. These interviews occurred at the conclusion of the study so participants could reflect and respond to questions by considering prior and current experiences. A pre-established protocol of questions guided each interview but this protocol was viewed as a general framework; deviations were expected and viewed as productive (Kvale & Brickmann, 2009).

Given several of the topics under examination were potentially of a sensitive nature (e.g., coach and teacher practice), individual interviews were an appropriate format of inquiry. For example, one key aim of the interview was to better understand how coaching practice impacted teacher practice. This was a potentially sensitive subject and it was possible that participants will edit their views and experiences, express responses that they view were more socially desirable, or may even offer brief comments. However, in a one-on-one format, the interviewer could attempt to more deeply draw out the interviewee while still attending to the potential sensitive nature of the interview topics. Therefore, responses to probes in a one-on-one setting could result in rich data to better understand aspects of social validity and phenomena embedded within the theory of change.

In order to produce rich information from participants, it was important to effectively facilitate each interview and negotiate areas of sensitivity such that interviewees still provide rich descriptions of experiences (Kvale & Brinkmann, 2009). Thus, after the introduction of the purpose of the interview, the interviewer adopted a non-intrusive demeanor in order to facilitate open discussion. For example, the interviewee was asked about his or her role and the interviewer allowed the interviewee to share this information with as little as prompting as warranted. As the session proceeded, the interviewee's responses were maximized by the interviewer's efforts to encourage deeper discussions of views and experiences. To accomplish this, key questions become more targeted towards specific phenomena of interest (e.g., the

impact of coaching on teaching) but were phrased such that a particular participant response is not promoted among other responses. Further probes or alternative viewpoints were highlighted so that the interviewee could more thoroughly consider his or her responses. The interviewer attempted to constantly draw upon the language and ideas of the interviewee in order to promote that participant's ideas and experiences. Priority was given to most accurately capturing the views of the interviewees. Thus, the interview adhered to the overall structure of the interview protocol but also deviated from this protocol based on the responses of the interviewees (Kvale & Brinkmann, 2009). Effective facilitation yields richer data from the interview sessions so that the theory of change guiding the study and the implementation of coaching could be more deeply understood.

Materials

Questions on the qualitative measure were structured according to specific types of questions. These questions were designed to facilitate open discussion among interviewees on aspects of social validity and the theory of change guiding the study. First, the protocol began with a question so the interviewee could ease into the session comfortably. For example, the participant was simply asked to describe their current role. This question was followed by one transition question. The transition question was targeted towards the topic of teaching and was expected to naturally lead into a discussion about coaching and teaching. Based on the interviewee's response to this transition question, the first key question could be omitted. The first key question directly asked the participant to talk about the experience of being coached or coaching (depending on the role of the interviewee).

Subsequent key questions with related probes attempted to uncover the interviewee's views about factors that shaped teachers' decisions to use new practices, coaches' decisions to

use particular coaching behaviors, the impact of these decisions on teacher practice, and participants' views on the use of the TCFAS. A probe also addressed perceptions of teacher-coach alliance and the participant's view on the use of the TCFAS in the field setting. These questions were followed by one ending question in which the participant was asked to provide any remaining comments.

Data Analysis

Data from the interviews were analyzed systematically according to three recursive steps: 1) data reduction; 2) data display; and, 3) conclusion drawing and verification (Miles & Huberman, 1994). First, the interviewer listened for inconsistent or vague comments and probes for understanding. As each interviewee concluded his or her responses to a set of questions, the interviewer summarized those responses and determined if this summary was adequate to the interviewee. After each interview session ended, the interviewee debriefed with the researcher to ensure any questions were addressed or issues are resolved. The interviewer and any other involved researchers drew upon initial interpretations to create field notes, specifically recording initial reflections and possibly identifying initial codes for noticed themes. These actions represented both data reduction and initial conclusion drawing.

Shortly thereafter, the audio recording was transcribed verbatim and uploaded to a technology-based platform. These written transcriptions were analyzed by developing initial codes and themes with illustrative quotes to highlight codes and themes. A more comprehensive data display was generated at this time to represent existing reduction and analysis. This display was revised and simplified over time to reflect how individual codes coalesced into themes that reflected relationships among variables under consideration, patterns and phrases, and

similarities and differences between groups of participants. These actions reflected data reduction, display, and conclusion drawing.

Then, initial codes and themes were shared with another researcher in order to keep or revise initial codes or themes. A tentative set of generalizations or conclusions was then generated (if this had not already occurred). It was important that conclusions drawn were constantly verified for the following features as outlined by Miles and Huberman (1994): 1) plausibility; 2) sturdiness; and, 3) confirmability (p. 11). These three aspects were important in establishing validity. Thus, conclusions were continually checked against existing data and revised accordingly. These steps were then repeated after each interview, and revisions to the data display were made as well to reflect findings across interviews. Overall, these data analytic procedures have been outlined by Miles and Huberman (2004) as strategies to undertake during qualitative studies. See Table 4.

CHAPTER 4

RESULTS

This chapter contains the results of the teacher-coach feedback and analysis system (TCFAS) on teacher practice, coach practice, and alliance. The chapter will begin by presenting results from the experimental stage of the study. Results for interobserver agreement for coach practice and teacher practice will be presented first. The second section comprises the results from the effects of the TCFAS on coach practice and teacher practice. Findings on teacher-coach alliance will then be presented, followed by a section presenting results related to treatment fidelity. The last section comprises results from the qualitative stage of the study. This section contains the results of the interviews across all participants, which specifically addressed social validity and the study's theory of change.

Interobserver Agreement

Interobserver agreement (IOA) was calculated for at least 50% of sessions for teacher practice and coach practice from baseline and intervention phases. Results will be reported below as well as in Table 5.

Coach practice. IOA for coach practice was calculated on a point-by-point basis as outlined by Kazdin (2011). At least two observers separately listened to half of the audio-recordings of these sessions and coded coach practice for use of the four categories of alliance-building strategies (e.g., collaboration, interpersonal skills, expertise in coaching, and expertise in behavior). The total number of agreements was divided by the total number of agreements plus disagreements. This yielded a quotient, which was multiplied by 100 to obtain the percentage of agreement. The percentage of agreement for Maddy averaged 95.97% (range: 92.91-97.50%), 95.39% for Earnest (range: 92.50-97%), and 94% for Helen (range: 92.5-95%.)

Teacher practice. IOA for teacher practice was calculated on a point-by-point basis across the three teacher dependent variables (fidelity of use of behavioral intervention; praise; and reprimands). Using the same formula as described above, at least two observers separately watched video-recordings of teaching sessions and coded for the teacher's use of praise, reprimands, and steps of the behavioral intervention (e.g., break card system for Connie and Mike; choices for Jim). IOA for Connie was conducted of 52% of the sessions and with a mean IOA of 91.64% (range of 92-100%) across all categories. For Jim and Mike, IOA was conducted on 70% of the sessions. IOA for Jim ranged from 99.64%with a mean of 99-100%, while IOA for Mike ranged from 75-100% with a mean of 96.31%.

Table 5

Interobserver Agreement

Teacher Practice

Participant	IOA[a:] Fidelity of Behavioral Interventions, Praise, and Reprimands	Range	Percentage of Observations with IOA
Connie	91.64%	92-100%	52%
Jim	99.64	99-100%	52%
Mike	96.31%	75-100%	70%
Coach Practice			
Participant	IOA: Alliance-Building Strategies	Range	Percentage of Observations with IOA
Maddy	95.97%	92.91-97.50%	50%
Earnest	95.39%	92.50-97%	50%
Helen	94%	92.5-95%	50%

Notes. a=Interobserver agreement

Intervention Results for Coach Practice

Results for coach practice are summarized in Table 6, which shows coaches' average use of alliance-building strategies across the baseline and intervention phases. Figures 4-6 show changes in coaches' use of specific alliance-building strategies across the study phases.

Maddy. During the baseline phase, Maddy used very few alliance-building strategies (comments showing interpersonal skill, collaboration, behavioral expertise, intervention feedback) into her coaching sessions with Connie (*M*=15.91% of intervals across baseline sessions; range=11.25-19.5%). Notably, Maddy provided very little intervention feedback to Connie (*M*=3% of intervals; range=0-7%) and made few comments showing interpersonal skill (*M*=2% of intervals; range=0-7%). Collaboration comments were somewhat higher for Maddy (*M*=11% of intervals; range=10-15%) but Maddy primarily used comments related to behavioral expertise as an alliance building strategy (*M*=48% of intervals, range= 33-57%). Use of this alliance-building strategy by Maddy showed a decreasing trend during the baseline phase, as did her use of intervention feedback and comments showing interpersonal skills.

With the introduction of the study's intervention, the Teacher-Coach Feedback and Analysis System, Maddy showed an overall increase of alliance-building strategies across the intervention phase (*M*=19.75% of intervals). Maddy also became stable in her use of alliance-building strategies across this phase (range=19.25-20.50%). Specifically, Maddy improved her use of intervention feedback, but also showed higher variability of this strategy (M=8.33% of intervals; range= 0-23%). Interestingly, Maddy tripled her use of comments showing collaboration but also showed some variability in this area (*M*=35.33% of intervals*;* range=28-40%), while her use of comments showing interpersonal skills showed minimal change (*M*=2.33% of intervals; range=0-4%). Finally, Maddy's comments showing her expertise in behavioral interventions decreased during the intervention phase (*M*=33% of intervals, range=23-38%). See Figure 4.

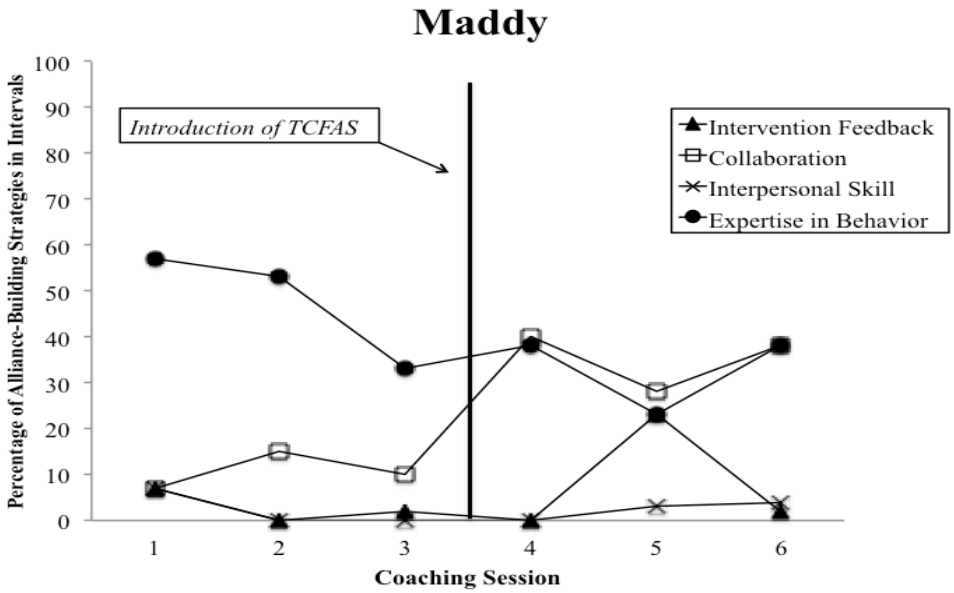

Figure 4. Percentage of alliance-building coaching strategies in intervals: Maddy.

Earnest. During the baseline phase of the study, Earnest's average use of alliance-building strategies was 16.57% of intervals, showing some variability in his use of these strategies (range=8.75-22%). Earnest showed particularly high expertise in behavior (*M*=48% of intervals; range= 33-58%) but very low use of comments related to interpersonal skills (*M*=1.67% of intervals; range= 0-3%). Earnest's average use of intervention feedback and comments showing collaboration were quite similar, with intervention feedback averaging 9% of intervals (range=0-20%) and comments related to collaboration averaging 7.67% of intervals (range=0-20%).

With the introduction of the intervention, Earnest showed a strong increase in his use of comments related to interpersonal skills (*M*=12.5% of intervals; range=0-25%) but decreased his use of intervention feedback (*M*=8% of intervals; range=0-17%). Interestingly, comments showing expertise in behavior also decreased during this phase (*M*=22.5% of intervals; range=10-35%). However, collaboration comments increased by more than six times to an average of 53.5% of intervals (range=52-55%). Overall, Earnest showed an increase use of

alliance-building strategies from the baseline phase to the intervention phase with reduced variability (*M*=24.5% of intervals; range=22.5-26%).

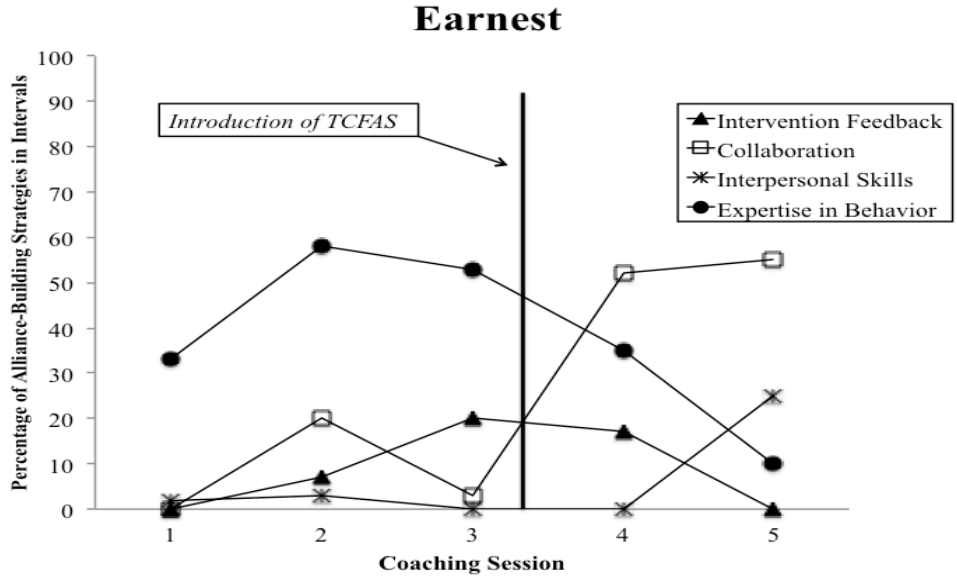

Figure 5. Percentage of alliance-building coaching strategies in intervals: Earnest.

Helen. During the baseline phase, coach Helen used the fewest alliance-building strategies than any other coach (*M*=14% of intervals across baseline sessions) but showed the least amount of variability (range=12.5-15.5%). Notably, Helen showed low use of comments related to collaboration (*M*=9% of intervals; range=8-10%) and comments showing interpersonal skill (*M*=9% of intervals; range=8-10%). Helen's mean use of intervention feedback and behavior expertise was 19% for both types of comments. However, the ranges for these two alliance-building strategies were different. Helen's range for intervention feedback was less variable (13-25%) while the range for behavior expertise showed greater variability (range=5-33%). Further, Helen's expertise in behavior showed an increasing trend during the baseline phase, while her interpersonal and collaboration comments remained stable. Her expertise in coaching showed a decrease during this phase of the study.

During the intervention phase, Helen's overall use of alliance-building strategies increased (*M*=25.88% of intervals; range: 25.75-26%). Specifically, Helen used fewer comments showing interpersonal skills (*M*=2% of intervals; range=0-4%*)* but showed a very strong increase in her use of comments related to collaboration (*M*=50% of intervals; range=48-50%). Helen's upward trend in her use of behavioral expertise continued from the baseline phase into the intervention phase (*M*=36.5% of intervals). Interestingly, Helen showed a downward trend in her use of intervention feedback during this phase of the study (*M*=15% of intervals; range=13-15%).

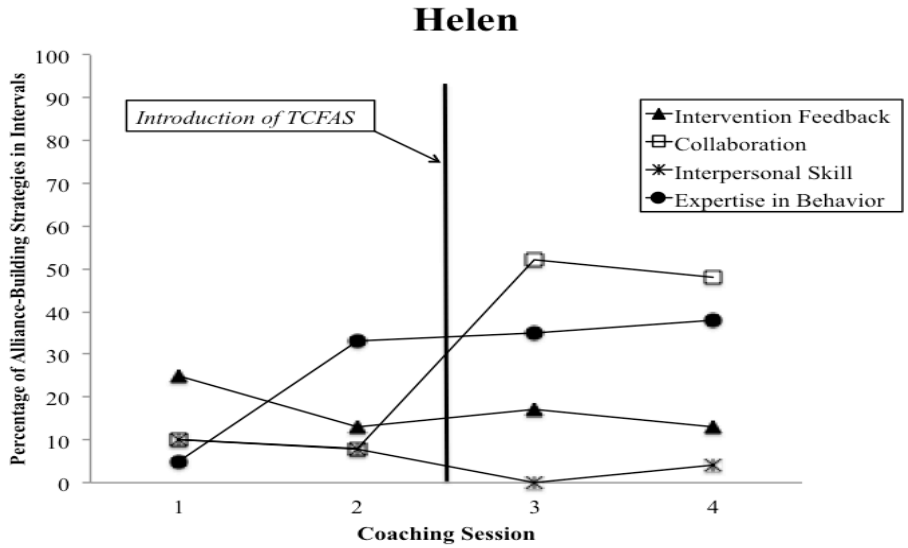

Figure 6. Percentage of alliance-building coaching strategies in intervals: Helen.

Table 6
Coaches' Use of Alliance-Building Strategies in Intervals

Coach	Baseline	Intervention
Maddy	Mean: 15.91%; Range: 11.25-19.5%	Mean: 19.75%; Range: 19.25-20.5%
Earnest	Mean: 16.57%; Range: 8.75-22%	Mean: 24.5%; Range: 22.5-26%
Helen	Mean: 14%; Range: 12.5-15.5%	Mean: 25.88%; Range: 25.75-26%

Intervention Result for Teacher Practice

This section comprises the results on the effects of the TCFAS on three teachers' practice. Each teacher's practice was measured in three areas: 1) praise; 2) reprimands; and, 3) fidelity of behavioral interventions. Results for each teacher on these three measures will be presented next, as well as in Figure 7.

Connie. During the baseline phase, Connie showed high variability in her use of praise (*M*= 13.2% of intervals; range: 0-43%) and reprimands (*M*= 37.1% of intervals; range= 7-67%). However, Connie's use of the behavioral intervention (i.e., a break card system) during baseline was stable and low (*M*=26.27% of intervals; range=13-31%). Following the introduction of the Teacher-Coach Feedback and Analysis System (TCFAS), Connie predominately showed an increase in the use of praise (M=44.67% of intervals; range=20-82%) while also demonstrating a gradual reduction in the use of reprimands. More specifically, praise showed an upward trend throughout the intervention phase (*M*=44.67% of intervals) although variability increased (range=20-82%). Reprimands became less variable (range=9-46%) and decreased during the intervention phase (*M*=28.25% of intervals). However, Connie's use of the break card system remained low during the intervention phase (*M*=30.83% of intervals) with reduced variability (range=25-39%).

The percentage of nonoverlap in Connie's data were also calculated across the three measures (i.e., praise, reprimands, and fidelity of behavioral intervention). Over half (58.33%) of Connie's praise data from the intervention phase did not overlap with her data from the baseline phase. For the break card system, 33.33% of data from the intervention phase did not overlap with data from the baseline phase. However, all of Connie's reprimand data from the

intervention phase overlapped with her data from the baseline phase, indicating zero percent of non-overlap in her use of reprimands.

Jim. Unlike Connie, Jim showed consistently low and stable use of praise (*M*=6.89% of intervals; range=0-17%) and reprimands (*M*=3% of intervals; range=0-10%) during the baseline phase. Unlike Connie Jim's use of the behavioral intervention, choices, showed more variability (range=0-27%) than his use of either praise or reprimands. His average use of choices (*M*=20.16% of intervals) was also higher than his use of either reprimands or praise.

During the use of the intervention, Jim's use of praise showed an upward trend (*M*=26% of intervals) but also became more variable (range=6-50%). Jim's use of the behavioral intervention, choices, showed a small, gradual increase with the introduction of the TCFAS (*M*=29.57% of intervals). His use of the behavioral intervention also became more stable during this phase (range=24-38%). One intervention session showed an exceptionally high use of reprimands (i.e., session 24 at 30%), resulting in a higher average use of reprimands during this phase (*M*=7.57% of intervals). This data point also influenced Jim's variability in use of reprimands (range=0-30%).

The percentage of Jim's non-overlapping data (PND) were also calculated for praise, reprimands, and use of the behavioral intervention (i.e., choices). More than half (57.14%) of Jim's praise data from the intervention phase did not show overlap with his data from the baseline phase. 28.57% of his intervention phase data for choices showed nonoverlap with his baseline data. Three of seven of Jim's reprimand intervention points (i.e., 42.86%) did not overlap from the baseline phase to the intervention phase. However, it should be noted that Jim's showed floor effects for his use of reprimands during the baseline phase, therefore impacting PND across phases.

Mike. During the baseline phase, Mike consistently showed very little use of praise (*M*=1.94% of intervals; range=0-11%) and showed a higher use of reprimands (*M*=11.33% of intervals). However, the use of reprimands was also more variable than his use of praise (range=0-50%), partly due to one particularly high data point from session 17. Mike showed a similar level of use of the behavioral intervention, a break card system, as Jim (*M*=20.11% of intervals). He also showed some variability in his use of this practice during the baseline phase (range=0-32%).

With the introduction of the TCFAS, Mike showed immediate, strong growth in praise (*M*=18.6% of intervals). This growth remained high throughout this phase (range=17-25%). However, during the first two intervention sessions Mike also showed an increase in reprimands from the last five baseline data points of zero. Despite this, his average use of reprimands during the intervention phase (*M*= 4.4% of intervals) became stable (range=0-13%). Mike's use of the behavioral intervention, the break card system, showed a slight increase throughout the intervention phase (*M*=28% of intervals). He also showed greatly reduced variability in this area of practice (range=25-33%).

Finally, Mike's percentage of non-overlapping data were calculated for praise, reprimands, and use of the behavioral intervention (i.e., break card system). 100% of praise data did not overlap from the intervention phase with baseline phase data. For reprimands, two out of four (i.e., 50%) of Mike's data from the intervention phase did not overlap with data from the baseline phase, although it should be noted that floor effects from the baseline phase affected this metric. A quarter (i.e., 25%) of data from the intervention phase did not overlap with data from the baseline phase for Mike's use of the break card system.

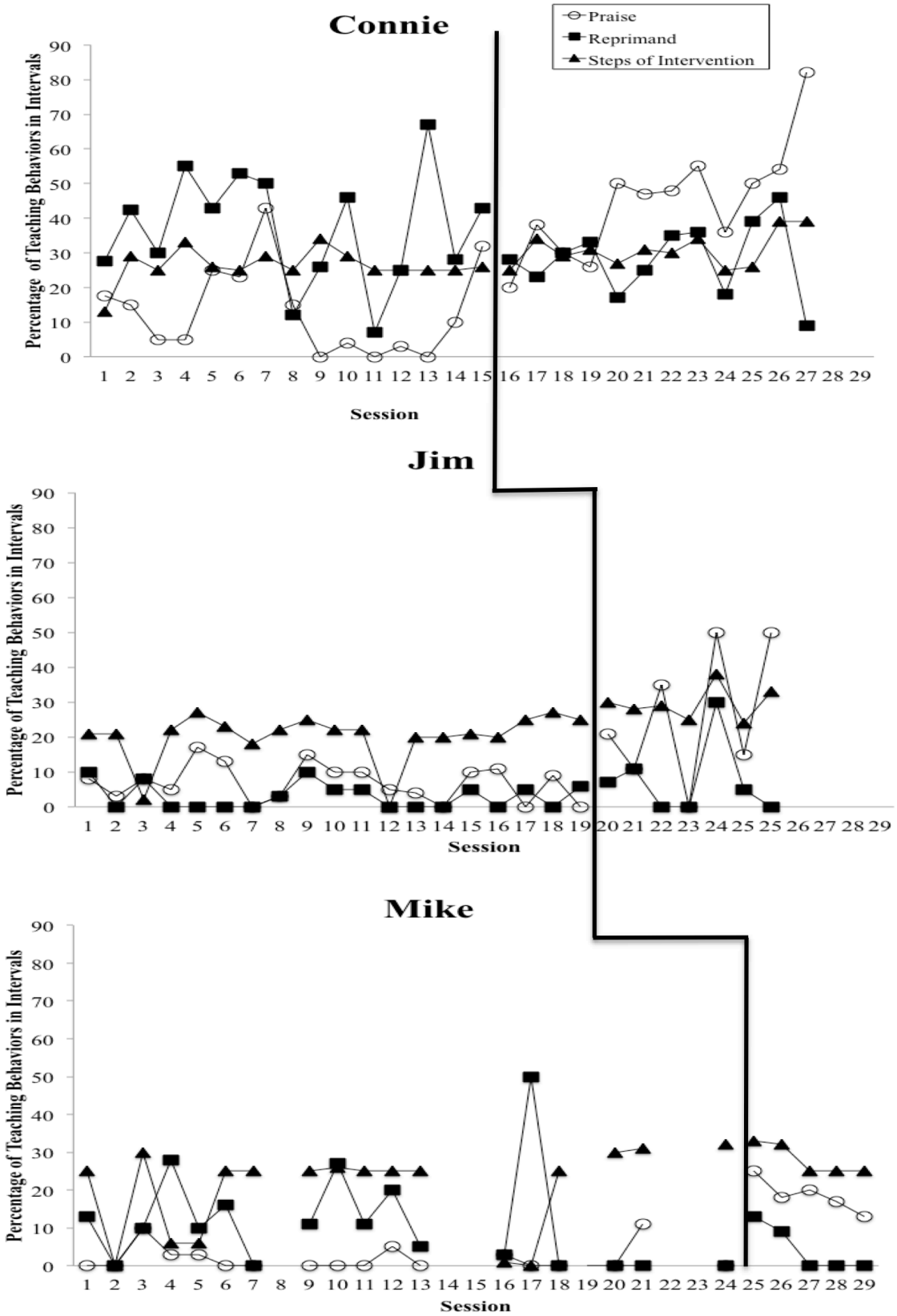

Figure 7. Percentage of praise, reprimand, and intervention steps per intervals for teachers.

Teacher-Coach Alliance

Results from one measure of alliance, the Teacher-Consultant Alliance Scale (Wehby, et al., 2011) will be presented next. Table 7 provides the mean and range of alliance scores for each participant across the baseline and intervention phases.

Dyad 1: Maddy and Connie. Across the three teacher-coach dyads, Maddy and Connie showed the highest percentage of alliance during the baseline phase across the three teacher-coach dyads. Connie's average alliance score was 95%, and was higher than her coach's average rating of alliance (85%.) Connie also rated alliance consistently throughout the baseline phase, with a range of 96-100%. On the other hand, her coach, Maddy, rated alliance with greater variability (74-94%).

During the intervention phase, Connie provided a similarly high rating of alliance. Her intervention average rating of alliance was 96% and this rating did not vary at all during this phase. Maddy also rated alliance the same throughout this phase, although her average of 88% was somewhat lower than that of Connie's rating. Both Connie and Maddy slightly increased their ratings from the baseline to the intervention phase.

Dyad 2: Earnest and Jim. With a mean of 94%, teacher Jim rated alliance quite high throughout the baseline phase of the study. Jim's scores showed a range of 88-98%, which was smaller than the range of scores from his coach, Earnest. In fact, Earnest's alliance scores ranged from 66-88% during the baseline phase, which resulted in an average alliance score of 76%. This average rating of alliance was not only lower than that of Jim's; it was also the lowest average rating of alliance among the three coaches participating in the study.

During the intervention phase, both Jim and Earnest showed greater consistency in their ratings of alliance. For example, Jim did not vary in his rating of alliance as 96% throughout the

intervention phase. Further, this rating was very similar to his baseline average rating. Earnest's rating of alliance also became stable during this phase, with a range of 86-88%. This resulted in a higher average rating of alliance during the intervention phase (*M*=87%) than his average rating of alliance during the baseline phase.

Dyad 3: Helen and Mike. Like all participants, Mike's alliance scores began quite high during the baseline phase, providing alliance ratings of 86%, 84%, and 92%. However, three particularly low scores during the baseline phase (56%, 74%, and 78%) resulted in an average score of 78.33%. His alliance scores therefore ranged from 56-86%.

On the other hand, during the baseline phase his coach Helen scored alliance quite high (*M*=88.25%) and with markedly less variability than that of Mike's (range=82-92%). In fact, Helen's alliance scores were consistently the highest among all three of the coaches across the dyads. However, it should be noted that Helen did not submit two alliance scales during this phase. These omissions corresponded to the coaching session with Mike's lowest alliance ratings of 56% and 74%.

During the intervention phase, Mike showed a higher rating of alliance (*M=80%)* while his coach, Helen, showed a slightly reduced rating of alliance (*M*=86%) from her baseline average. It should be noted Mike and Helen were the final dyad to enter the intervention phase of the study. Thus, their scores from this phase represent only one data point.

Table 7
Teacher-Coach Alliance Scale Results

Dyad	Baseline Mean and Range	Intervention Mean and Range
Connie (teacher)	95% (96-100%)	96% (96%)
Maddy (coach)	85% (74-94%)	88% (88%)
Jim (teacher)	94% (88-98%)	96% (96%)
Earnest (coach)	76% (66-86%)	87% (86-88%)
Mike (teacher)	78.33% (56-92%)	80% (80%)
Helen (coach)	88.25% (82-96%)	86% (86%)
Across participants	86.09% (76-95%)	88.83% (80-96%)

Treatment Fidelity

During the intervention phase of the study, each teacher-coach dyad participated in up to three coaching sessions in which we measured treatment fidelity.

For each dyad, the number of coaching steps completed for each coaching session was calculated. The total number of these steps occurring per coaching session was divided by the total number of steps possible (i.e., three) and then multiplied by 100 to result in a percentage of treatment fidelity. Then, a mean was calculated to show the average percentage of treatment fidelity across intervention phase coaching sessions. Results showed that all three dyads had 100% treatment fidelity across the intervention-phase coaching sessions. This meant that for each of these coaching sessions, the dyads completed and submitted a teacher feedback form, a coach action plan, and a recording of their feedback session that incorporated alliance-building strategies.

Qualitative Findings

The next section of this paper will present the key findings from the qualitative portion of the study. These findings have been drawn from one-on-one interviews with teachers and

coaches, which occurred after the completion of the multiple baseline design. The purpose of these interviews was two-fold: 1) to better understand traditional aspects of social validity (Goldstein, 2014); and, 2) to enrich experimental findings, particularly the theory of change guiding the study.

Finding 1. Coaches and teachers found value in the use of the TCFAS components, with coaches attributing changes to teacher practice and perceptions to use of the system. First, teachers found value in the TCFAS because it provided them with the opportunity to affirm that coaches were, in fact, helping teachers with the use of behavioral interventions. Teachers also believed that the teacher-coach feedback form would be particularly helpful for other coaches and teachers who did not hold strong relationships. However, it is also important to note that teachers believed that for their particular coaching situations, written feedback was somewhat redundant. This was because teachers believed that because of the strong relationships that they held with coaches, teachers were already comfortable providing verbal feedback to coaches about their needs and goals- and, more importantly, that coaches listened to their feedback and were actively working to help them achieve those goals. Connie summarized this: "It was kind of unnecessary because I was already expressing my feedback to Maddy and Maddy was taking my feedback into consideration. But it might help with those who don't have a similar relationship".

On the other hand, coaches strongly indicated that the TCFAS provided an easy-to-use format that produced meaningful changes to teacher practice and perceptions. Coaches particularly valued the teacher-coach feedback form, as it provided explicit information from the teacher to the coach on the needs and goals of teachers. In fact, one particular prompt from the form seemed to stand out to coaches as highly informative: *What is your goal in relation to your*

use of the steps of the intervention? This question was most informative for coaches because they could clearly determine the ways in which the teacher wanted to improve. With this information in hand, coaches were able to pinpoint how to better coach teachers. Having a clear goal in mind was energizing for coaches, as they understood precisely what the teacher wanted to accomplish. Further, coaches found that this particular question from the teacher-coach feedback form shifted how they viewed teachers. More specifically, coaches began to view teachers as willing to change their practice.

These ideas are captured first by Earnest and then echoed by Helen. Earnest stated, "The question about the goal for next week: this is the one area that helped the most. The things he asked me for as far as goals, that really came out. So I knew exactly what I would talk about for the coach plan...I will bend over backwards to help the teacher reach that." Earnest continued on to note, "Once he started talking about praise [as a goal on the feedback form], I was like YES! I could take that seed, add water, and then we got a sprout! In my case, increasing praise was a challenge- but he was willing to do it." Similarly, Helen noted, "Now I could see what he needed and wanted, it was like, I'm ready to give that! We have a focus, one specific goal, and we can start small and move towards that. If they are not ready to receive it, it [coaching] could go the wrong way. If willing and ready to receive, [the teacher sees] this is the problem, and then we can talk about the solution." Finally, Maddy viewed Connie's response on the teacher feedback form about her teaching goal as a window of opportunity in coaching Connie. With Connie's feedback, Maddy was able to pinpoint precisely *what* Connie was willing to change: increasing praise with students. "Not all teachers buy into the positives. It's huge, and I have tried with other teachers who don't buy in. And I feel like pounding my head on door- and I can't get through why positives are so much more important. There's a mentality that the kid

should do something, and [the teacher] won't deviate from that. How do I help them see?" But as she considered Connie's goal, Maddy realized that she did not have "pound her head on the door" but instead could focus her coaching efforts on helping Connie achieve her goal because Connie was willing to change. "…Connie was willing to give it a try…Willing- that was so important."

Coaches found value in the other two components of the TCFAS as well: the alliance-building strategies and the coach action plan. Coaches expressed strong interest in using alliance-building strategies on a continual basis and indicated that they could easily pick specific strategies to use based on the feedback from teachers. The action plan template was also a useful resource for coaches because it helped them to more explicitly plan out in advance how they would conduct coaching sessions with teachers. Thus, coaches found that they began to approach coaching in a more strategic manner. As coaches began to use alliance-building strategies in their coaching sessions, coaches began to see teachers make changes to their practice. Moreover, coaches found that teachers began to view Tier 3 behavioral interventions in a more favorable light.

For example, Maddy spoke of the importance of "validating" the ideas and thoughts expressed by the teacher and "showing empathy… I told Connie 'I want this to be easy for you and if you can't do it, I won't be offended'…that's interpersonal skills, that's trust building, that goes back to if teacher asks me about a kid, and me taking the time for the teacher- that's rapport building." As Maddy reflected upon how her more strategic approach to coaching impacted Connie, she stated, "She [Connie] saw progress, a little, and that was helpful, and then she started using the pieces with other kids. And she saw it work… She saw it working, and she had to come to it [believing in the intervention] herself." Earnest summarized these sentiments as

well, stating, "The coaching experience- what's important is the communication, the collaboration… I want to just focus on collaboration with teacher, and why the kid is the way he is…this is what matters in my coaching". In fact, Earnest found that he continuously referred to the handout of alliance-building strategies as he developed his coaching action plans. "The strategies: it mapped out what I wanted to do. Those steps helped me figure out what we were doing." Earnest continued on to reflect how his more strategic approach to coaching impacted Jim. He stated, "Seeing it [praise] work: the different levels of validation [i.e., praise] a teacher can give, and seeing the student be successful: it paid off. He started to think praise would work." Similarly, Maddy stated, "At first, I thought, 'Oh gosh! More paper!' Then I was like, I like writing it down. It made me stop and take a little more time to come up with how to respond to what she said, instead of just talking back and forth. I sat at home and thought about how can I go from here and I spent time consciously writing it down. You don't always have time, but that was helpful."

Finding 2. While teachers and coaches similarly defined important aspects of alliance in coaching, only teachers attributed changes to practice and perceptions to this variable. First, participants believed that three factors of alliance and three related alliance-building strategies played an important role in their work together. The factors of alliance that teachers and coaches found to be most critical were: 1) collaboration; 2) interpersonal skills; and, 3) behavioral expertise. The three alliance-building strategies teachers and coaches viewed as critical in changing teacher practice were: 1) meeting the needs and goals of teachers; 2) building and maintaining trust; and, 3) conveying deep levels of knowledge of challenging behavior and behavioral interventions. Only one factor of alliance, expertise in intervention feedback, was viewed as a less essential in improving teacher practice. See Figure 8.

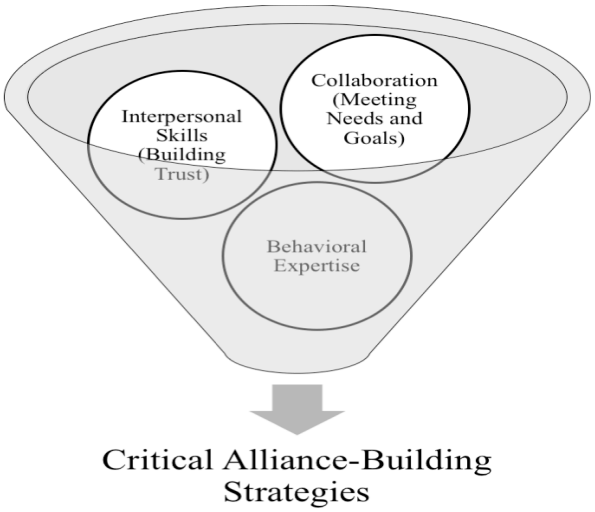

Figure 8. Coach and teacher perceptions of changing teacher practice: Critical alliance-building strategies.

For example, all teachers referred to coaching as "collaborative" and "trusting", with coaches showing "expertise". Connie contrasted Tier 3 coaching she received in the past and her experiences with Maddy, stating, "The past coach was an administrator or another Tier 3 member who didn't come to my room, and I was being told what to do by both. With [the administrator and other Tier 3 coach] there didn't seem to be recognition of the teacher's perspective, only the perspective of the student. *This* experience was different: [it was] *collaborative.*" Connie continued on to say, "The relationship between us helped me to make changes to my practice- I felt that I was being helped with Maddy as opposed to being told what to do… Maddy always listens to what I need help with and gives me that help." Connie also spoke of the behavioral expertise of her coach: "Maddy is a teacher with this experience, she has the expertise because this is what she does every day, and this made me confident Maddy knew what she was doing and why." Both Mike and Jim echod these thoughts, albeit more succinctly. Jim stated, "Our relationship- [it] had a positive impact on my teaching, because it help me to remember to use praise with all students, not just one student….What helped me to use intervention better was because of the relationship." Similarly, Mike referred to this global sense

of strong alliance as the reason why he improved his practice: "My relationship with Helen and trusting her, getting her support."

Coaches, like teachers, felt that alliance played an important role in coaching and defined positive alliance as a relationship that consisted of collaborating colleagues who listen and trust, trust one another, and recognize the other person's expertise. As Helen surmised"…it's not that it [a positive relationship] *has* to be there…but I work better. When that isn't there, I feel like an administrator: telling what to do as opposed to coaching. Really, I am their colleague, but in a position where I have to help them grow. Where relationships are not as strong, I feel like I am telling them what to do as opposed to working in a partnership." Similarly, Maddy stated, "I think it [the relationship] matters. [We] met over time, to have beer. Not just a working environment relationship, there's an outside piece, that's helped a lot [with coaching Connie]. The one teacher- the one I'm struggling with, there is none of that…I do think that [the relationship] helps."

Second, teachers attributed their more positive views of behavioral interventions to teacher-coach alliance. Strong alliance helped them to *consider* using Tier 3 interventions. Alliance even helped teachers to use those interventions, even when they did not initially believe they were needed, effective, or appropriate for their classroom contexts. For example, Mike did not initially believe that behavioral interventions would work, but because he had strong alliance with this coach, "…he was willing to give it a try." Similarly, Jim did not initially believe that Tier 3 interventions suggested by his coach would help reduce challenging behavior. In fact, as Jim and Earnest began working together, Jim convinced his coach to omit the replacement behavior from the intervention because Jim thought that they were lowering expectations too drastically for the student. However, as Jim attempted to implement the intervention and the

student did not show improved behavior, he came to understand that "…we started with a higher standard than what we should." Moreover, he attributed his alliance with Earnest as one reason why he was able to understand why the intervention was more effective if it included a replacement behavior as a pathway to desired behavior. For Jim, Earnest provided a level of support that he needed to have in order to "step outside the box" such that he accepted that increasing a student's replacement behavior was not the same as lowering his behavioral expectations for that student.

Connie's experience with Maddy perhaps best illustrate the role of alliance in helping teachers to view behavioral interventions in a new light. "I didn't initially buy into the idea of the break, and the replacement behavior, and that the medical issue was resulting in aggressive behavior…but I trusted Maddy. She has this experience." As she began to use the interventions, she came to understand why the interventions were working: "…when the student improved I realized that what Maddy had been trying to tell about that medical condition impacting behavior was accurate." Moreover, Connie came to view the interventions in a new light. "The interventions were geared towards tier 3 kids, but they actually helped me be more positive with all kids….this is good for all kids and I need to use it more. I was using praise and break card in past- but with break card, it was not formalized and targeted. With praise, I was doing it but not enough. The fact that the interventions also help ALL kids makes them more important to me." Connie continued on to consider how her work with Maddy helped her come to this understanding: "Coaching helped me better understand how much praise to provide and how it helps all kids."

Finding 3. Coaches believed that the TCFAS served as an invaluable tool that improved the overall effectiveness of the Tier 3 team. This finding suggests that for coaches,

the TCFAS was not just helpful for their individual coaching situation. It was also viewed as helpful for coaching at the school-system level. Although the team had been in place for several years, coaches viewed the Tier 3 team as a work-in-progress, where team members attempted to continually improve upon the services they provided to the school on working with challenging behavior. Coaches believed that as a part of their ongoing efforts to improve, the Tier 3 team had to shift how they approached their work with teachers on a systems-wide level. Coaches were particularly concerned that coaching had not yet been able to produce sustained, increased use of behavioral interventions among teachers. More specifically, coaches were uncertain if teachers across the school- even those requesting Tier 3 team support in prior years- were willing to use Tier 3 interventions or believed those interventions would work.

Although coaches recognized that Tier 3 coaching needed to improve system-wide and were particularly concerned with how teachers viewed behavioral interventions, they did not know how to adjust how the team provided Tier 3 coaching. However, as coaches experienced success within their individual coaching dyads, coaches began to view the TCFAS as an important tool that other Tier 3 teacher-coach dyads would benefit from using. For coaches, this meant that *more* teachers would become willing to use interventions that they were not willing to use before. Coaches also believed that a larger group of teachers in the school would view Tier 3 behavioral interventions in a more favorable light. These would be important accomplishments for the overall work of the Tier 3 team, as they sought to continually improve their work with teachers to reduce challenging behavior among students at the school level, not just on a case-by-case basis.

For example, Helen explained, “Tier 3 is always trying to get better…” but she found that “We don’t always really know how to better help our teachers work with challenging students

other than offering up ideas for interventions and writing plans." However, Helen also noted that the TCFAS provided "…the process that is needed and craved. Give me a process and I'll follow it…I enjoyed having a format to follow. We could all use this same format." Maddy also reflected upon her work as a Tier 3 member and offered the following: "When I sit in Tier 3 [meetings] and listen to the frustration of 'they [teachers] should just know how to do it [use behavioral interventions]'- something is missing, and how do we support that…" However, Maddy anticipated that it would be helpful for the team as a whole to use the TCFAS because teachers' practice would improve, which in turn help reduce challenging behavior at the school. "It takes a lot of work, but it's worth it, and Connie sees the benefits. Other teachers would, too."

But these views are perhaps best captured by Earnest, who stated, "Yes, intervention plans are needed, yes they are beneficial, and most teachers would say they want to know more about the plans. But how we get there is by supporting- coaching by meeting their needs and goals, and **not** just giving information and expecting they do it. That's where we have the discrepancy." Earnest continued on to suggest that this "discrepancy" was less-than-fruitful for team's overall effectiveness: "We don't need a disconnect, we need to be a team, not office staff and teaching staff, we are a team, so let's get that information out there. We are all experts; let's work together to help students. Coaching is a way to do that. We won't save every kid, we can't label every kid, but we will find a strategy for how to help these kids. Those are the things of coaching." Earnest continued on to state, "In my case, increasing praise was a challenge, but he [Jim] was willing it to do. This was a huge behavioral and cognitive shift for the teacher, a teacher who comes from strict, structured background for 20 years, so coming into an thinking

outside the box, he made big steps and I can't think better of him for it. Our team can get there with other teachers if we keep doing this type of work."

CHAPTER 5

DISCUSSION

The purpose of this study was to examine the effects of the Teacher-Coach Feedback and Analysis System (TCFAS) on coach practice, teacher practice, and teacher-coach alliance. The TCFAS allowed teachers to provide feedback to coaches on coaching sessions, specifically commenting on coaches' use of alliance-building skills (e.g., expertise in behavior and coaching as well as coaches' interpersonal and collaboration skills). Upon receipt of teacher feedback, coaches analyzed the information and wrote a brief action plan to increase the alliance building strategies in future sessions.

This study attempted to offer a unique examination of coaching. Existing studies of coaching have sought to examine if coaching works (i.e., improves teacher practice). This study sought to extend findings about coaching as including cycles of observation, modeling, and providing feedback by examining coaches' use of alliance-building strategies. It was hypothesized that use of the TCFAS would lead to improved coach practice (i.e., increased use of alliance-building strategies), thereby leading to improved teacher practice. Results from the experimental and qualitative stages of the study suggest that use of the TCFAS did, in fact, lead to improvements in coaches' use of specific alliance-building strategies. Some improvements in teacher practice were also seen. Important shifts in teacher-coach perceptions also occurred. These findings offer further insight into the nature of effective coaching.

Changes to Observable Practice: Teachers and Coaches

Coach practice. First, this study found that several specific changes occurred in observable coach practice with the use of the TCFAS. Experimental data show that all three coaches showed the largest increase in their use of one specific alliance-building strategy,

collaboration. In fact, collaboration became the alliance-building strategy used more than any other strategy during the intervention phase and increased for all coaches from baseline to intervention. The use of the TCFAS increased how often the coaches discussed teachers' current and future needs, goals, and areas in which help was needed.

A second change of coaches' observable practice was their use of behavioral expertise. Although two of the three coaches (Maddy and Earnest) showed a decrease in the use of behavioral expertise from the baseline to intervention phases and Helen showed an increase in her use of this alliance-building strategy, the use of behavioral expertise was the second most frequently used alliance-building strategy during the intervention phase. This meant that during baseline coaching sessions, Maddy and Earnest devoted most of their coaching sessions to explaining and describing complex behavioral concepts. During the intervention coaching sessions, both Maddy and Earnest shifted their use of alliance-building strategies such that they relied less upon their behavioral expertise and relied more on collaborating with the teacher. In fact, Maddy showed nearly equal amounts of behavioral expertise and collaboration during these sessions. On the other hand, Helen showed the opposite pattern across study phases: she initially showed very little behavioral expertise during her coaching sessions but increased her use of this strategy during the intervention coaching sessions.

Third, some aspects of observable coach practice *did not* change over time. For example, both Helen and Maddy relied very little on comments that showed interpersonal skills (e.g., building trust, effective communication such as summarizing and asking open-ended questions). Earnest only showed higher levels of comments that demonstrated interpersonal skills during the final coaching session. Regarding intervention feedback (e.g., providing specific, positive, and corrective feedback about the teacher's use of the interventions), coaches rarely drew upon this

strategy. For example, both Maddy and Earnest rarely used intervention feedback as an alliance-building strategy. Although Helen, more so than any other coach, provided intervention feedback it should be noted that by the intervention phase Helen used collaboration and behavioral expertise *more* than she provided intervention feedback.

Teacher practice. Teachers' experimental data suggests that changes to coach practice were productive. First and foremost, the data indicate the change in coaching practice had a powerful impact on at least one aspect of teachers' practice: praise. Visual analysis of data from the experimental stage suggest that all three teachers increased their level (i.e., mean) of praise as a result of the TCFAS coaching sessions, with two teachers (Connie and Jim) showing an upward trend during the intervention phase. Although both Connie and Jim showed an increase in variability (i.e., range) in praise, Mike became more stable over time. Further, both Jim and Mike showed an immediacy of effect with the introduction of the TCFAS. Each of the three teachers participating in this study demonstrated PND of over 50% for praise, with one teacher (Mike) showing 100% of nonoverlapping data.

Improving the use of praise is an important part of improving teacher practice because praise is considered to be a fundamental classroom management practice, particularly in the elementary grades (Sutherland, Wehby, & Copeland, 2000; Simonson, Fairbanks, Briesch, Meyers, & Sugai, 2008). Students who are served in classrooms that incorporate high levels of praise are noted as showing improved academic and behavior outcomes (Sutherland & Wehby, 2001; Gorman-Smith, 2003). While behavior-specific praise has been particularly noted as effective (Brophy, 1983), even general praise has been shown to lead to improved outcomes among students (Simonsen, et al., 2008).

Despite the clear value praise plays in effective classroom management, teachers often struggle to rely upon praise as a regular part of their teaching repertoire. Instead, many classrooms are characterized as offering very little praise, offering very little praise and high levels of reprimands, or offering praise in an inconsistent manner (Briere, Simonson, Sugai, & Myers, 2015; Reinke, Lewis-Palmer, & Martin, 2007). Moreover, increasing praise such that teachers regularly draw upon this practice in a consistent, stable fashion has long been noted as a puzzlingly difficult endeavor (Briere, et al., 2015; Reinke, et al., 2007; Sutherland, Wehby, & Yoder, 2002).

Teachers' observable improvements in decreasing reprimands and increasing the use of behavioral interventions (i.e., a break card system and choices) with the advent of the TCFAS were more mixed. Both Connie and Mike showed a change in level for reprimands as well as a downward trend in their use of this practice. These two teachers reduced their variability while Jim's data indicate a slight increase in variability due to one data point. However, it should be noted that both Jim and Mike used very low rates of reprimands across the entire study. This overall low rate of reprimands could be characterized as a floor effect, suggesting that they had little room to improve to begin with and that improvements in their use of reprimands would be somewhat limited. Regarding teachers' use of behavioral interventions, results were also somewhat mixed but some important improvements were achieved. All three teachers increased their level of use (i.e., as determined by a mean change) and reduced their variability. Both Connie and Jim showed an immediacy of effect. Jim also showed an upward trend and 72% of his intervention data did not overlap from the baseline phase.

While visual analyses do not allow for a conclusion to be drawn about a treatment effect for reprimands or behavioral interventions, teachers' improvements in these two areas should not

be minimized. Decreasing reprimands, whether those reprimands are occur rarely (e.g., Mike and Jim) or whether those reprimands occur on an irregular basis (e.g., Connie), suggests that teachers showed a fundamental shift in their overall classroom management practices. Increasing praise and decreasing reprimands meant that these teachers spent less time focused on challenging behavior and more time acknowledging desired behavior. This creates a classroom atmosphere that is positive and conducive to learning rather than one that is perpetuating a cycle of criticism that only increases challenging behavior. While the teachers may not have achieved the level of praise of 6 to 10 statements per minute suggested by research (Sutherland, Copeland, Wehby, 2001; Sutherland & Wehby, 2001), their demonstrated increases showed a strong improvement. Thus, increasing praise in may seem to be a small achievement, but it should be viewed as a significant accomplishment, particularly in the context of the other changes teachers made to their practice.

Further, improvements in praise and reductions in reprimands may have played a role in why two teachers (Connie and Mike) did not show a treatment effect in the use of behavioral interventions. Increasing praise for these participants may have offset the need for intensive behavioral interventions. The premise of a tiered system of interventions is that less intensive interventions are in place prior to the introduction of more intensive interventions, thereby potentially reducing the need for those more intensive interventions. Praise is often used as one such Tier 1 intervention. But it may also be the case that high dosages of praise mitigate the need for other behavioral interventions. If this is the case, it may be that that praise is such a powerful teaching practice that it could be a proxy for a teacher's overall effectiveness in behavior management (Simonsen, et al., 2008). Simply increasing praise may be sufficient improvement.

Another point for consideration is three teachers participating in the study were all newer to the field of teaching, each holding no more than three years of experience. As novice teachers, they lacked extensive experience working with the most challenging student behavior. In fact, given the number of years of experience of these teachers, it could be argued that they were still mastering the foundations of teaching. Given this point, it may be more realistic to expect that teachers could only improve their practice in one area rather than improving in multiple practices. The behavioral interventions (choices and a break card system) consisted of multiple steps and were therefore the most complex of the three dependent variables. The complexity of these interventions may have meant teachers needed more time to show stronger improvements. Further, interviews with participants indicated that all three teachers specifically requested support from their coach on increasing praise. Examination of teacher-coach feedback forms confirms that increasing praise was the goal for all three teachers for each of the intervention coaching sessions. Therefore, it is perhaps not surprising that teachers increased praise, as this was the specific practice that they aimed to improve. This suggests that further coaching aimed at reducing reprimands and improving teachers' use of the steps of the interventions could improve teachers' use of those practices.

Teacher-Coach Views on Changes to Practice and Perceptions

Coach views. While it is important to understand *how* coaches and teachers changed their observable practice, it is equally important to understand *why* these changes occurred. In considering these shifts, it is helpful to recall how dyads began working together. Prior to the start of the study, the three teachers requested support from the Tier 3 Team because those teachers were experiencing difficulty working with a student. A coach was assigned to each teacher and the dyad began to develop a plan to improve student behavior. The teacher then

began to use interventions spelled out in the plan. As the study began, coaches provided coaching support for teachers by observing and showing behavioral expertise (for Maddy-Connie and for Earnest-Jim) or by observing and providing feedback about the teacher's use of the interventions (for Helen-Mike).

During this timeframe (i.e., during the baseline phase), coaches seemed to be unclear as to the needs and goals of teachers, even though teachers *requested* support from this team and the dyad identified specific behavioral interventions for the teacher to use. Coaches were also unclear about how to precisely change coach practice to achieve improved teacher practice. They also did not observe teachers making change to practice. For coaches then, the baseline phase became a point in time where coaches viewed that teachers were making very little progress.

However, the TCFAS marked a point in time that was extremely powerful for coaches. Receipt of teacher-to-coach feedback initiated a chain of events that produced changes to coach practice and changes to their perceptions about teachers. Coaches began to pinpoint how to best help the teacher and began to strategically use alliance-building strategies. Coaches also began to view teachers as willing to make needed changes to practice. Importantly, coaches observed teachers making changes to their practice. Finally, coaches began to believe that teachers held behavioral interventions in a more favorable light. Experimental data on teacher practice corroborates that teachers did in fact begin to show observable improvements in their use of praise, reprimands, and behavioral interventions at the onset of the intervention phase. In particular, teachers demonstrated strong improvements in their use of praise. Experimental data also corroborate changes to coach practice. Moreover, these shifts clarify how coaches viewed

the process of changing teacher practice, attributing it to stemming from the use of the TCFAS. See Figure 9.

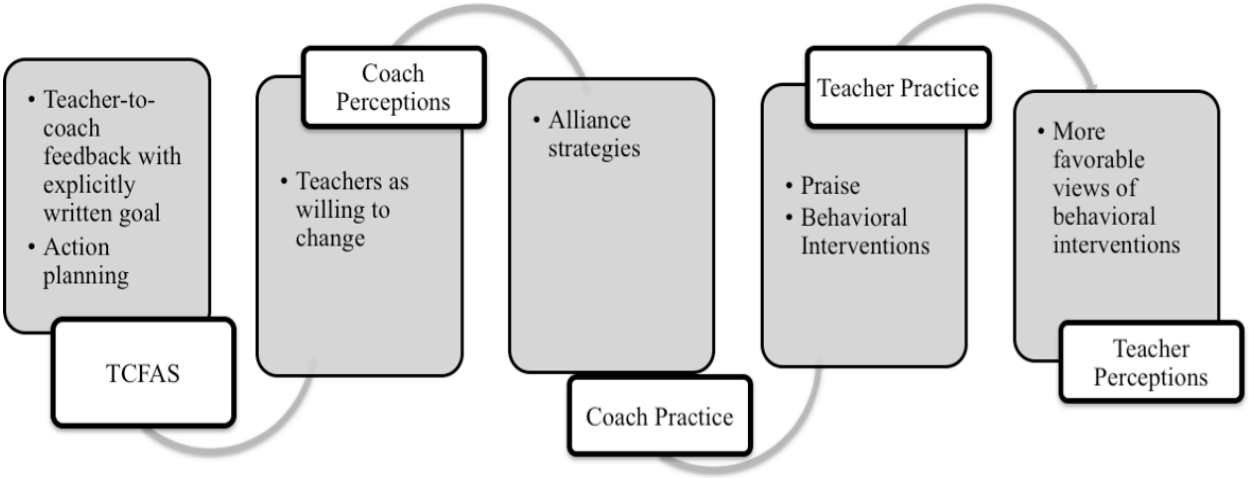

Figure 9. Coach perceptions changes to coach and teacher practice and perceptions.

Teacher views. However, qualitative data from teachers offers a different perspective on why teachers made changes to practice and how their perceptions shifted over time. For teachers, the advent of the TCFAS was not necessarily a pivotal moment in time when either their own practice *or* the practice of coaches became markedly different. Rather, for teachers, the *onset* of coaching was the most important time of the coaching experience. This was because from the initial stages of coaching, teachers viewed coaches as supportive, collaborative, trustworthy, and holding high levels of behavioral expertise. Given this context of positive teacher-coach alliance, teachers perceived that they immediately made significant shifts to practice (even though experimental data demonstrate that these changes only occurred with the use of the study intervention). Teachers also attributed their improved views on behavioral interventions to the immediately strong relationships they held with coaches. Thus, while components of the TCFAS were paramount for coaches, *alliance* was paramount for teachers. See Figure 10.

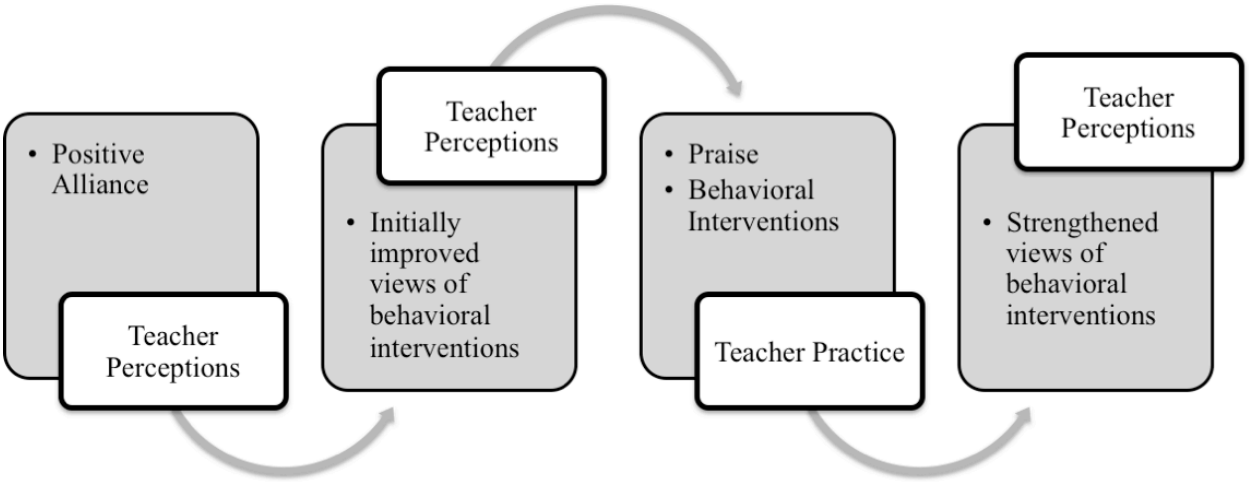

Figure 10. Teacher perceptions of changes to coach and teacher practice and perceptions.

Perhaps this is less-than-surprising perception among teachers, as positive alliance has been suggested as a foundational part of effective coaching (Neufeld & Roper, 2003; Becker, et al., 2013; Hershfeldt, et al., 2012). But the views of teachers and coaches offer important points about the connections among alliance, the use of the components of the TCFAS, and teacher practice.

The Role of Alliance in Effective Coaching

Given that existing literature on alliance suggests that the perception of strong alliance can be powerful predictor for behavior, the fact that teachers perceived strong alliance with that coaches would seem to be an important milestone. For one, among therapists and clients with high alliance, clients show *observable improvements* in their mental health (Horvath, et al., 2011; Wampold & Norcross, 2011). In fact, the magnitude of the association between alliance and outcomes is so powerful that it "is one of the strongest and most robust predictors of treatment success empirical research has been able to document" (Horvath, et al., 2011, p. 15).

In the context of this study, it was clear that as coaches worked with teachers, both members of the dyad perceived positive alliance. Despite this point, findings from this study suggest that the presence of strong, positive alliance and high levels of fidelity of teacher practice

(as suggested by Wehby, et al., 2012) may more of an exception than the rule for coaches and teachers. It is possible that significant correlations between fidelity of practice and alliance may only apply to certain coaching situations, those of which did not exist in this study. Coach-teacher dyads in the study by Wehby and colleagues (2012) consisted of partnerships of out-of-building coaches paired with teachers. In this study, coaches were colleagues of teachers; as colleagues, coaches and teachers began to work together with a foundation of positive alliance.

Although it is not clear why teachers did not demonstrate high fidelity of practice that this time, what is clear is from experimental data is that teachers only made substantial changes to their practice with the use of the study intervention, *not* prior to that phase of the study. Therefore, although teachers *perceived* that they improved their practices due to alliance, these perceptions were somewhat inflated. Rather, it was the use of the TCFAS components that seemed to produce shifts in some aspects of observable teacher practice, not the presence of positive alliance.

But this is not to say that alliance does not matter in coaching. Even if positive alliance does not necessarily predict improved practice, teachers *believed* that alliance was the pivotal reason why they decided to makes changes to their practice. For these teachers, positive alliance set the context for them to consider using behavioral interventions that they did not completely believe would work. Positive alliance also helped shape more positive views of behavioral interventions among teachers. Further, positive alliance helped teachers to actually *use* new practices and to perceive improvements in practice that were not yet detectable to the outside eye. Without the perception of positive alliance, it is possible that teachers may not have even *considered* using interventions, thus reducing the likelihood of achieving improved student behavior.

Alliance therefore seems to an important aspect of effective coaching. We just cannot expect it to necessarily predict improved teacher practice. Therefore, if coaches seek to improve teacher practice, coaches must do more than ensure positive teacher-coach alliance exists. *Coaches' observable behavior* needs to shift as well. This suggests that in coaching there is a difference between *building and maintaining* positive alliance and *conducting* coaching that produces improved teacher practice. In mental health, the presence of these perceptions may be enough to predict improvements in the observable changes in client behavior. With teaching and coaching, this may not be the case.

The Role of Alliance-Building Strategies and Teacher Feedback in Effective Coaching

If changes to coach practice, therefore, are essential for producing discernable treatment effects on teacher practice, how might coaches specifically change their practice? While findings from this study cannot disentangle the impact of the individual components of the TCFAS on teacher practice, findings do offer important insight into the role of alliance-building strategies and teacher-to-coach feedback in effective coaching.

Alliance-building strategies. A compelling body of research suggests that coaches can improve teacher practice if they rely upon on-going cycles of observations, modeling in the teacher's classroom, and providing specific, positive, and corrective (if warranted) feedback to teachers. These are the established critical components of coaching and as critical components argued to be the essential "ingredients" of effective coaching (Kretlow & Bartholomew, 2010; Neuman & Cunningham, 2009). Despite this point, coach-to-teacher feedback was one alliance-building strategy that played a nearly non-existent role in the study's coaching sessions. This suggests that coaching may *not* always need to incorporate this particular coaching component. In fact, the one coach who tended to provide feedback (Helen) did not produce improvements in

teacher practice. Tellingly, Mike *only* showed improved practice during the intervention phase when his coach began to draw upon the study intervention. Finally, when considering the practice of the coaches from the other two dyads, neither Maddy nor Earnest regularly provided feedback to their teacher partners across either phase of the study. During this baseline phase, it could be argued that lack of coach-to-teacher feedback influenced low use of behavioral interventions. However, both teachers showed improvement during the intervention phase- even *without* the use of coach-to-teacher feedback.

Thus, it seems that coach-to-teacher feedback was not required in order to achieve improved teacher practice during the intervention phase. In fact, experimental and qualitative data show coaches drew upon collaboration, interpersonal skills, and behavioral expertise as a part of their intervention coaching sessions. For coaches who seek to achieve improvements in teacher practice- particularly praise- the use of these alliance-building strategies may offset the need for coaches' use of other critical coaching components such as coach-to-teacher feedback**.** It may be that when coaches talk with teachers about their needs and goals and demonstrate high levels of behavioral expertise, and communicate effectively while creating an atmosphere of trust, teachers may not require specific feedback about the degree to which they are using behavioral practices. This is important given that among the critical coaching components of observation, modeling, and providing feedback, coach-to-teacher feedback arguably holds the largest body of evidence behind it as an effective way to change teacher practice (Scheeler, et al., 2004; Fallon, et al., 2015).

The purpose of the current study was to establish causal links between coaching practice that incorporated alliance-building strategies and teacher practice by drawing upon The Teacher-Coach Feedback and Analysis System (TCFAS) to improve coach practice, thereby leading to

improved practice among teachers. Given the effect of the use of at least three of these strategies on teacher practice, it seems safe to say that coaches may integrate these alliance-building strategies as a part of effective coaching practice. See Figure 11.

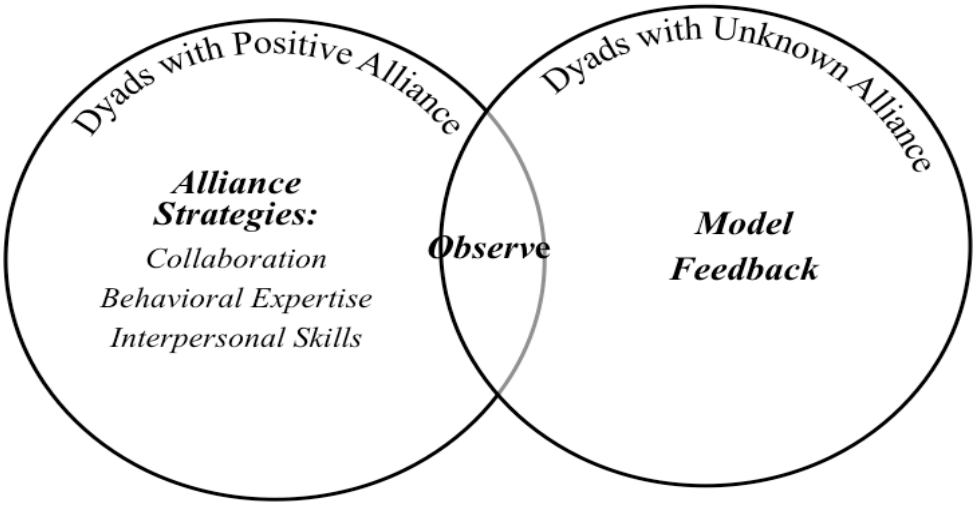

Figure 11. Use of coaching components among dyads with known positive alliance and unknown levels of alliance.

Teacher-to-coach feedback. For more than thirty years, coaching literature has maintained that a system of feedback and analysis on coaching is important (Joyce & Showers, 1996; Bean & Isler, 2008; March & Gaunt, 2013; NIRN, 2012; Guskey, 2002). Further, research from implementation science suggests that it is important that feedback systems incorporate information from those who are directly involved (i.e., teachers). This point is especially crucial, given that Guskey (2002) indicates feedback, particularly the perceptions of teachers, is a foundational aspect of evaluating effectiveness within a comprehensive system of feedback on PD. As the direct recipients of PD teachers are in a unique position to provide information about the impact of coaching. Finally, mental health research suggests a system of feedback plays a particularly important role in one key part of the therapeutic process: improving patient outcomes (Norcross and Wampold, 2011; Horvath, Flückiger, Del Re, & Symonds, 2011). It seems that collecting and using patient feedback- particularly about alliance- is so powerful in

influencing patient outcomes it has been deemed a "demonstrably effective practice" in mental health therapy (in contrast to therapies that are either "probably effective" or "promising but lack sufficient research to judge"; p. 99).

Findings from this study suggest that teacher-*to*-coach feedback about alliance was an important part of effective coaching practice. Coaches clearly benefitted from receiving explicitly written feedback from teachers, particularly about teachers' needs and goals. This was a somewhat surprising finding. Teacher-to-coach feedback was originally conceptualized as a component of the TCFAS that would primarily benefit the *teacher*. That is, teacher-to-coach feedback was thought to provide a venue for teachers to express their reactions to coaching which otherwise would go unknown. However, the coaches in this study found teacher-to-coach feedback helped them to more strategically approach coaching, to better meet the needs and goals of teachers, and to view those teachers in a more favorable light.

This suggests that *coaches* experience important benefits from a multi-directional system of feedback- perhaps just as much or more than teachers do. Although teachers found the Teacher-Coach Feedback Form to be somewhat unnecessary because they were already communicating feedback to coaches, it seems that coaches did not "receive" or pick up on this information explicitly. It may be that the feedback expressed in the written form was more explicit than verbal communications from teachers. Or, it may be that verbal feedback was not enough to convince coaches that coaching was working. Written communication, particularly in reference to teacher's goal, validated for the coach that the teacher was committed to making changes to practice. This latter point is important because coaches only viewed teachers as willing to change when they received written teacher feedback. Viewing teaches as willing to change was a powerful shift in how coaches perceived teachers.

Although it is possible to say if teacher-to-coach feedback or other components of the TCFAS (e.g., the use of alliance-building strategies) effected teacher practice, it is evident that this feedback played a central role in improving coach practice, thereby achieving improved teacher practice. For coaches, then, it seems important that they collect teacher-to-coach feedback, particularly feedback that relates to the needs and goals of teachers.

Coaching in Tier 3 Teams

Finally, findings from this study offer insight into how the study intervention, the TCFAS, can be drawn upon by Tier 3 teams as a way to more systematically implement coaching. Research from Implementation Science suggest that implementation is a complex and challenging endeavor, where we can only expect improved outcomes if effective *interventions* are paired with effective *implementation* efforts. Effective implementation efforts involve strategic attention to implementation phases, implementation goals, as well as the domains of implementation (Fixsen, et al., 2005; Damschroder, et al., 2009).

However, schools often struggle to systematically implement coaching (NIRN, 2012; March and Gaunt, 2013). For example, plans typically are not put into place to help practitioners understand the purpose of coaching and tools are often not available to help practitioners reflect upon and evaluate coaching (NIRN, 2012). This means that coaching is commonly put into place with little attention to those factors that define effective implementation. This is problematic if coaching as a form of professional development is expected to produce lasting improvements to teacher practice. Coaches are often left to figure out on their own how to reflect upon and evaluate the degree to which coaching is working. Findings from this study suggest that the TCFAS provided a way for Tier 3 team members to reflect upon and evaluate coaching. Specifically, coaches found the feedback form, the action planning form, and the

alliance-building strategies handout to be helpful tools. Coaches indicated that they could use the tools to consider how and why teachers were responding to coaching, how teachers might respond better to coaching, and how to adjust their practice. Further, all three coaches planned to continue to use the system in future coaching practice, particularly the feedback form and coach action plan. Thus, coaches found the TCFAS as a useful tool for addressing such fundamental questions about coaching as: What precisely is the coach doing to improve teacher practice and how do we know that the coach's practice is effective? How do we know if coaching is producing improved teacher practice? These are important points because we currently lack tools that help us to respond to such essential questions about coaching.

Revised Theory of Change

The revised theory of change posits that among teacher-coach dyads with existing positive alliance, use of the TCFAS mobilizes coaches to change their practice. Specifically, written feedback from teachers about their goals and needs helped coaches pinpoint how teachers wanted to improve. With this feedback in mind, coaches became reinvigorated in their practice, viewing teachers as willing to change. Coaches began to adjust coaching such that they drew upon different alliance-building strategies. In particular, coaches increased their efforts to meet the needs and goals of teachers, continued to show high levels of behavioral expertise, and maintained strong trusting relationships with teachers. Coaches' use of these alliance-building strategies led to teachers' increased use of behavioral practices, particularly praise. As coaches engage in these processes, it is essential for teachers to perceive positive alliance. Alliance mobilized teachers to begin using behavioral interventions and shaped more' more positive perceptions of these practices. See Figure 12.

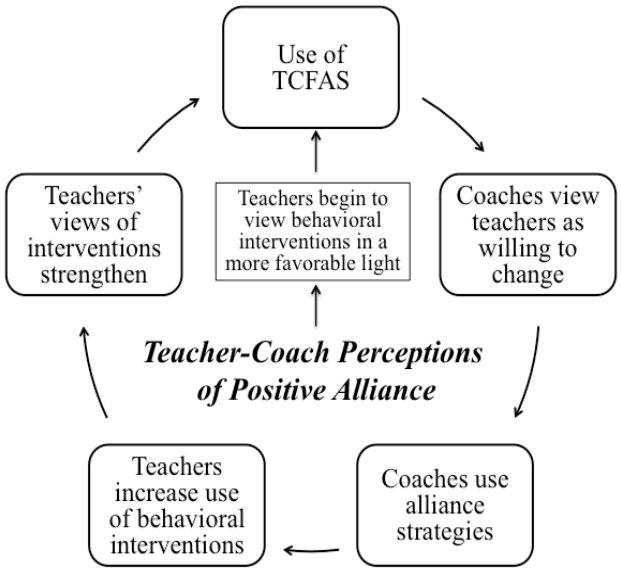

Figure 12. Revised theory of change

This revised theory of change differs from the original theory of change in two key ways. First, the perceptions of coaches and teachers are included, whereas the original theory of change did not incorporate perceptions. As perceptions seem to play an important role in changing teacher and coach practice, it seems important to integrate them into the revised theory of change. Second, this theory of change posits that positive alliance is the entry point for changes in practice and perceptions. The three dyads participating in this study immediately experienced positive alliance and this remained high throughout the study. Given this last point, it is important to point out that the revised theory of change may only apply to teacher-coach dyads with positive alliance at the onset of coaching. It is therefore unknown how this theory of change would apply to those dyads with low, moderate alliance, or among those with alliance fluctuations.

Limitations

This study contained several limitations. First, the first five baseline data points for all three teachers reflected the absence of in-classroom coaching. That is, during this time coaches did not observe teachers or meet with those teachers. This type of coaching reflected the existing

practice of Summerset's Tier 3 coaches. It could therefore be suggested that sessions 1-5 reflect the absence of coaching while all subsequent sessions reflect coaching. However, teacher practice data do not show meaningful changes when sessions 1-5 are compared to subsequent baseline sessions. While coaching that occurred in sessions 1-5 "looked" different, the impact of that type of coaching on teacher practice was similar to coach-teacher practice throughout the remainder of the baseline phase.

Another limitation of the study was the number of intervention coaching sessions for two of the three dyads. Mike-Helen and Jim-Earnest engaged in two intervention coaching sessions, which may have resulted in less powerful findings. In fact, coaching did not occur on a weekly basis due to the time constraints of the participants. It is possible that more frequent coaching would produce additional treatment effects. However, as these two dyads entered the intervention phase later than the first dyad, it may be expected that they held fewer coaching sessions than Connie and Maddy.

Another limitation related to the designation of praise as a Tier 3 intervention. Praise is often considered as a Tier 1 behavioral practice (Simonsen, et al., 2008) but within the context of this study practitioners identified it as a Tier 3 intervention. Given the designation of praise by some as a Tier 1 practice, it could be argued that improving praise was not improving teachers' use of Tier 3 interventions at all. However, it is interesting to note that at least two dyads reported student behavior improved with the increased use of praise, suggesting that Tier 3 interventions may have not been needed for the students. It may be that the teachers participating in the study who initially requested support for a student they found to be "Tier 3" simply required assistance with general behavioral management practices. In turn, this would suggest that the "Tier 3" student was incorrectly identified as such: if the use of a Tier 1

intervention (praise), did, in fact, lead to improved behavior by the target student, it is possible that the student was incorrectly referred to the Tier 3 team. Or, as suggested in the discussion, praise may simply be an extremely powerful intervention that helps all students, regardless of their tiered status.

A final limitation of the study relates to data collection. For all three dyads, a week-long spring break interrupted data collection, as did two additional weeks of state-wide testing. Further, for one of the dyads (Mike-Helen), the Tier 3 student was absent, suspended, or tardy on multiple occasions, rendering it impossible to collect data on those days. This resulted in the need to extend data collection beyond that of Jim or Connie, as their Tier 3 students showed little to no attendance issues.

Future Directions

This study offers several potential future directions. First, coach-to-teacher feedback has been argued as a critical coaching component, yet in this study the use of this coach practice played a nearly non-existent role. Yet, teacher practice still improved. This begs the question: if at least two coaching components (modeling and feedback) are *not* essential for improving teacher practice, which coaching components are truly critical and which are ancillary? Why? If coaches primarily draw upon collaboration as an alliance-building strategy but do not show high levels of behavioral expertise or interpersonal skills, will teacher practice improve? Why? Relatedly, it would be helpful to disentangle the effects of the alliance-building strategies and the use of teacher-to-coach feedback on teacher practice. This would help better define effective coaching.

This leads to a second topic to explore: the use of the alliance strategy referred to as "collaboration". Would it be equally productive for coaches to simply set goals with teachers?

That is, could the study intervention, a complex system that involved collecting teacher feedback, analyzing this feedback, developing a coaching action plan, and using alliance-building strategies be simplified such that coaches simply *asked* teachers to state their goals and needs? This would perhaps be a more parsimonious approach to what was called "collaboration" in this study. It is possible that this simpler approach would produce improvements in teacher practice.

Next, questions remain as to how to measure alliance. Although the scale used in this study (Wehby, et al., 2012) was based on several technically adequate and valid measures of alliance from the field of mental health, it had not been used before to assess on-going perceptions of alliance. It has also not been used among dyads consisting of colleagues. Therefore, it is unknown the degree to which the scale accurately captures the on-going perceptions of alliance among dyads of working colleagues. The scale may accurately capture those perceptions or may miss some potentially important aspects of alliance. One such aspect of alliance that the scale did not directly address was willingness to change. It may be that a direct question about willingness to change would be informative for future examinations about the nature of alliance in coaching.

Finally, it would be helpful to better understand how the TCFAS would impact teacher-coach practice among those with negative alliance or among coaches who do not hold primary positions within the school setting (e.g., district or outside consultants). In fact, this system was originally conceived as tool for teacher-coach dyads with negative alliance, with the idea that this system could help improve alliance as well. It may be fruitful to examine the intervention from this study among teachers and coaches who do not possess positive relationships, as well as among coaches who work outside the context of the school. This is because what we cannot say

yet is how a negative teacher-coach relationship influences the implementation of an intervention. Future studies could examine this.

Summary

This study used a multiple baseline design and one-on-one interviews to analyze the effects of the TCFAS on coach practice, teacher practice, and alliance. Under the TCFAS, coaches collected feedback from teachers on teacher-coach alliance, analyzed feedback, and generated an action plan to increase their use of alliance-building strategies during coaching sessions with those teachers. Experimental and qualitative data show that while teacher-coach alliance remained high throughout the duration of the study, use of the TCFAS helped coaches view teachers as willing to change and mobilized them to shift their use of three alliance-building strategies: collaboration, behavioral expertise, and interpersonal skills. Experimental results also indicated a functional relationship between coaching under the TCFAS and an increase in teachers' use of praise. Although some improvements were also seen in teachers' use of Tier 3 behavioral interventions and reprimands, this improvement was not consistent across all teachers. These changes suggest that the TCFAS may be a useful tool for teachers and coaches working within the context of Tier 3 teams.

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Appendix A

Training Agendas

Module 1

- **Topic:** Critical Coaching Components
- **Time:** 40+minutes, depending on length of time participants choose to engage in discussion
- **Preferred Format:** Power-point module with discussion by participants
- **Participants:** Tier 3 coaches

Time	Task	Expected Learning Outcomes
30 seconds	**Introduction, Purpose of the Session, & Session Overview**	Prepare for learning
5 mins	**Defining Critical Coaching Components:** What & Why	Coaching cycles of observation, modeling, & providing feedback Impact of coaching cycles on teacher practice and student outcomes
5 mins	**Conducting the Preliminary Coaching Meeting:** The coach learns how to introduce coaching to the Tier 3 teacher requesting assistance from the Tier 3 team	Integrate new knowledge of coaching critical components with prior knowledge of coaching
10 mins	**Scenario of Critical Coaching Components:** These are written descriptions of coaching sessions within the video module. Include talking points & discussion questions for participants to think about as they read scenarios. **Questions:** What did you notice from the scenarios? How do the scenarios reflect current coaching practice? What is different from you current practice? What questions do you have about the use of critical coaching components?	Integrate new knowledge of coaching critical components with prior knowledge of coaching
10 mins	**Debrief of Scenario:** Participants either talk to each other or individually think about talking points/questions related to scenarios. (Use questions from above)	Integrate new knowledge of coaching critical components with prior knowledge of coaching
10 mins	**Practice Scenario:** Participants can either practice with each other or reflect upon how they would approach coaching scenarios	Integrate new knowledge of coaching critical components with prior knowledge of coaching Practice coaching skills
30 seconds	Wrap up & Next Steps	Anticipate for next session

Appendix A, continued

Training Handout

Module 1
Effective Coaching Overview: Critical Components

Effective coaching incorporates **three specific behaviors**, or **critical coaching components.** Coaching models that rely upon **on-going cycles** of these **critical components** are **more effective** than coaching models that do not.

The critical coaching components include:

1. Observation
2. Feedback
3. Modeling

Coaching Component	Descrion	Guidelines for Use
Observation	Coach **watches** the teacher use behavioral intervention.	Observation is often the "starting point" of the coaching cycle.
Feedback	Coach provides **feedback about the teacher's use** of behavioral intervention. **Elements of Effective Feedback:** • **Specific** • **Positive** • **Timely (i.e., delivered the same day of the coaching session)** *Example:* "*Nice job waiting providing the tangible reinforce when Sally raised her hand".* • **Corrective, if needed** *Example*: *"Remember to provide the tangible reinforce when Sally raises her hand".*	Possible delivery methods: • Verbal, written, and/or emailed • Provided at a time convenient to the teacher and coach • Deliver feedback each time you conduct a coaching session
Modeling	**Coach shows** the teacher how to use the behavioral intervention; the **teacher watches** the coach; **the teacher uses** the intervention in front of the coach.	Modeling occurs **"in-the-moment-of-teaching**" Modeling is **particularly helpful if the teacher seems to be struggling** to correctly use the behavioral intervention. If this **isn't** the case, then you do not need to model during that coaching session

Appendix A, continued

Training Handout

Module 1
Conducting the Preliminary Meeting with a Teacher

What: A meeting with a Tier 3 Coach and his/her assigned teacher
When: After you and the teacher identify a behavioral intervention to use
Why: To explain Tier 3 coaching process

	Steps to Conduct the Preliminary Meeting
Step 1: Schedule the Meeting	**Explain:** • 10-30 minutes needed • Purpose of the meeting: a. To describe the Tier 3 coaching process
Step 2: Conduct the Preliminary Meeting	**Explain:** • Purpose of coaching: • To support the teacher implementing Tier 3 behavioral intervention "in-the-moment-of-teaching" (while the teacher is working with the student of concern) • Occurrence of coaching: • Once a week • Roughly 15 minutes per session • General overview of coaching process: • Coach will observe the teacher using the intervention with the student of concern • Coach may also show the teacher how to use the intervention (i.e., model) if the teacher is unfamiliar with it; this will also occur "in-the-moment-of-teaching" • Coach will provide verbal and/or written feedback to the teacher during a non-instructional time (e.g., after school, before school) **Discuss:** • Any questions, comments, or concerns **Explain, Provide Written Copy, and Discuss:** • Steps of the instructional practice
Step 3: Scheduling future coaching sessions	**Schedule:** • Day/time of coaching sessions: • Must occur when teacher is using behavioral intervention with student of concern • Day/time/format of providing feedback • At least 5 minutes • Must occur during a non-instructional time • Teacher's preference for verbal and/or written feedback

Appendix A, continued

Training Agendas

Module 2:

- **Topic:** Teacher-Coach Alliance
- **Time**: 30-45 minutes, depending on time coaches need to master content
- **Preferred Format:** Didactic presentation with scenarios
- **Participants:** Tier 3 coaches, 1:1 with Jennifer as move from baseline to intervention

1 min	**Introduction, Purpose of the Session, & Session Overview**	**Outcome**
2 mins	**Review of Critical Coaching Components:** What & Why	Coaching cycles of observation, modeling, & providing feedback Impact of coaching cycles on teacher practice and student outcomes
2 mins	**Teacher-Coach Alliance:** **Factors that Shape Alliance & Coaching Strategies: Building Alliance**	Integrate new knowledge with prior knowledge
5 mins	**Teacher-Coach Feedback & Analysis System:** **Teacher Feedback Form** Overview of form Purpose of teacher feedback What do the questions tell coach about effective coaching? Procedure for use of form with teacher Questions from coach	Integrate new knowledge coaching with prior knowledge of coaching
5 mins	**Teacher-Coach Feedback & Analysis System:** **Coach Action Plan** Overview of Action Plan Purpose of action plan: Analyzing teacher data and adjusting coaching Scenarios: Practice analyzing feedback and generating Action Plan Procedure for submitting Action Plan to Researcher **Conducting the Preliminary Meeting** Introduction of the Teacher-Coach Feedback Form to teachers	Integrate new knowledge coaching with prior knowledge of coaching
10 mins	**2 Practice Scenarios:** Building Alliance Participants practice analyzing sample teacher feedback, generating action plan that incorporates alliance building strategies Participants practice conducting the Preliminary Meeting to introduce Teacher-Coach Feedback Form to teachers	Integrate new knowledge of coaching with prior knowledge of coaching Practice alliance building skills Ensure mastery of use of TCFAS
5 mins	Wrap up & Next Steps	Anticipate for use of TCFAS

Appendix A, continued

Training Handout

Module 2: Effective Coaching

Effective coaching includes on-going cycles of:

- Observing;
- Modeling, if needed;
- Providing feedback about teacher's use of interventions;
- **Strategically using teacher-coach alliance strategies.**

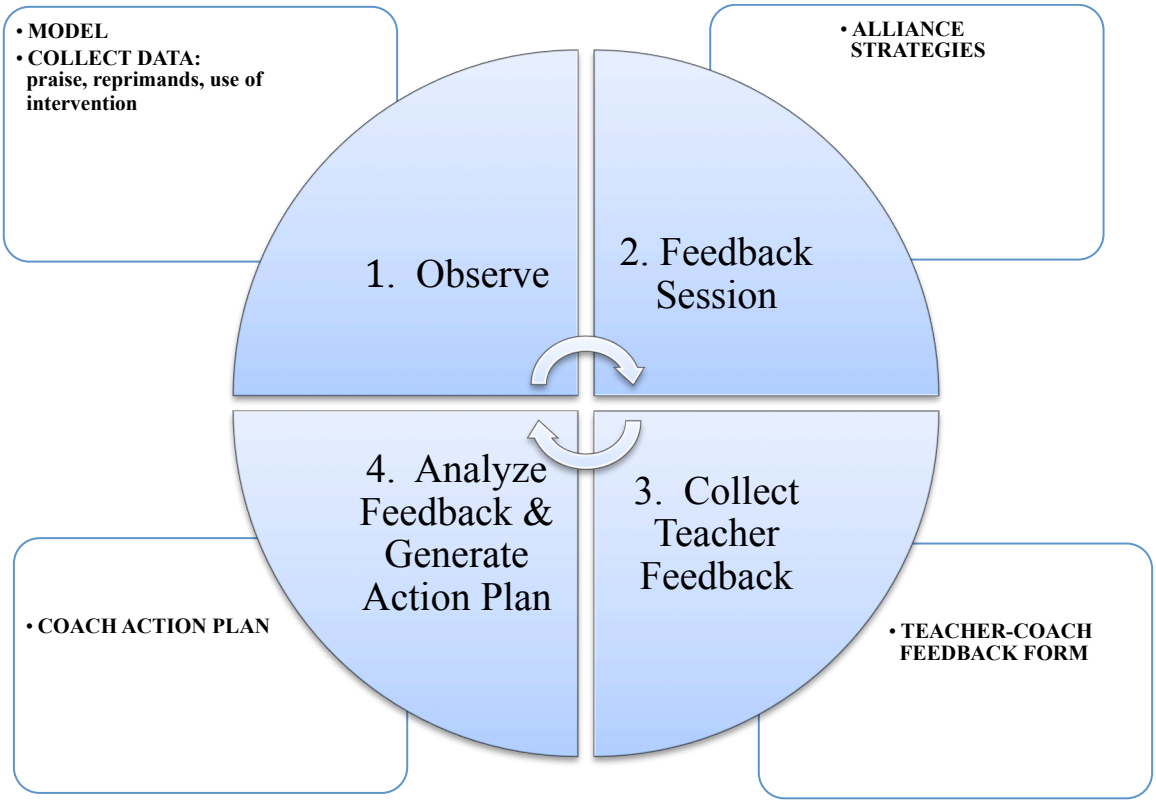
For the 2nd phase of the study, you will:

- Continue to observe and provide feedback weekly to your teacher;
- **Use teacher feedback to come up with brief action plan to adjust coaching by using new coaching strategies**;
- **Use these strategies during your observation & feedback session.**

The Purpose of Teacher Feedback & Coach Action Planning:

- To learn more about the impact of coaching from the perspective of the teacher;
- To adjust coaching to help the teacher improve use of behavioral interventions.

Steps:



Appendix A, continued

Training Handout

Module 2: Coaching Strategies: Building Alliance

During Observation:

- Collect data on academic praise, behavior-related praise, reprimands/corrections, and use of steps of intervention

During Feedback Session:

Interpersonal Skills: *Communication* *Building Trust* *Non-evaluative/ judgmental*	• **Summarize**: "*What I learned from your feedback is..."* • **Open-Ended Q's**: *"Can you tell me more about that?* • **Affirm Difficulty of Change:** *"This is really hard! We'll get it!"*
Collaboration: *Meeting Needs & Goals* *Conveying Improving Teaching is Teamwork*	• **Refer to Past Accomplishments:** *"This week you hoped to accomplish….."* • **Refer to Current Goal:** *"Your goal for this week is…..* • **Help Teacher Progress Towards Goal: "***Let's talk about what we'll do to meet that goal. I can…..What do you think you will try to do…."*
Expertise: *In Providing Intervention Feedback In Behavioral Interventions*	• **Provide Specific & Positive Feedback: "***I saw you use ___ 5 times today. Your use of that step really helps improve student behavior. That's great!"* • **Continually Refer to Steps of Intervention to Ensure Teacher Understands Intervention:** *"Step ____is an important part of the intervention because... "* • **Explain Complex Concepts in Succint Way: "***The Tier 3 student may show challenging behavior because..."*

Appendix A, continued

Training Handout

Module 2: Scenarios

Scenario 1

Jay is using two interventions: providing choices with the target student and increasing praise with all students. Jay and his coach have had several coaching sessions to date. At the last feedback session, Jay's coach just completed a feedback session and provided a feedback form to Jay to complete. Jay returned the completed form to his coach.

Jay's feedback form:

- Jay thought it was helpful to get an update on the target student's transportation plan.
- Jay's accomplishment was that he provided choices to the target student when the student became agitated in class. Choices seemed to prevent an escalation of problem behavior, but the target student still becomes highly agitated frequently.
- Jay does not have a goal in relation to the interventions, b/c he provides praise already to students and he is using choices already.
- Jay thinks that communication is strong between the coach and teacher, b/c they listen to each other and he feels "heard" by his coach.

During the observation:

The target student sometimes sits with students and sometimes wanders around. You use a simply tally method to collect some data on Jay's use of the two interventions. Your data look like this:

Academic Related Praise	Behavior Related Praise	Reprimands/Corrections (when problem behavior is occurring)
3 tallies	0 tallies	0 tallies

Choices Steps
Expectations visible: Yes
(Re)Teaching expectations for desired behavior: No
Praise for meeting expectations: 0 tallies
Providing choices if student does not meet expectations: No ---the teacher did not provide choices when the target student wandered around- but the student did not disrupt others, so this may be appropriate
Praise for meeting expectations if choices given: 0 tallies

Directions for Scenario 1:

Work with Jennifer to determine how you could adjust coaching to use specific alliance-building strategies.

Ideas to consider for your coach action plan:

- Some areas of strength seem to be in communication (interpersonal skills) and that the teacher used choices with the target student at least once to prevent problem behavior.
- The coach may improve coaching by helping the teacher come up with a goal for increasing the use of behavioral interventions- perhaps increasing praise to target student.
- In order to come up with a goal with the teacher, the coach decides to brainstorm ways to provide praise to the target student (tallies for that student, verbal statements, paw prides, etc.).
- The coach also decides to collect data so that more specific information can be shared with the teacher. This may help Jay "see" the degree to which he is using the interventions.

Appendix A, continued

Training Handout

Module 2: Scenarios

Scenario 2

Directions for Scenario 2:

1. Review Jay's 2nd feedback form and data from your observation (see below)
2. Talk with Jennifer about a possible action plan. Specifically identify which strategies you might use in your feedback session.
3. Conduct a feedback session with Jennifer as if she is Jay. Or, talk about how you would conduct your feedback session.

Jay's Feedback:

- Jay thought it was helpful to know his use of praise, steps of intervention, and reprimands
- Jay's accomplishment was that he continued to provide choices to the target student when the student became agitated in class.
- Jay's goal is to increase praise.
- (same as last week) Jay thinks that communication is strong between the coach and teacher, b/c they listen to each other and he feels "heard" by his coach.

During the observation:

The target student sometimes sits with students and sometimes wanders around. Jay provides choices once but does not praise the student for compliance.

Academic Related Praise	Behavior Related Praise	Reprimands/Corrections (when problem behavior is occurring)
3 tallies	3 tallies	0 tallies

Choices Steps

Expectations visible: Yes
(Re)Teaching expectations for desired behavior: No
Praise for meeting expectations: 0 tallies
Providing choices if student does not meet expectations: Yes- student complied
Praise for meeting expectations if choices given: 0 tallies

Appendix B

Teacher-Coach Feedback Form

Directions:

- Respond to the questions about today's coaching session.
- Return this form to your coach.
- *This information will not be shared with other team members.*

1. Think about **your use of the steps of the intervention** (see back side) and **the most recent coaching session:**

    a. What was **helpful?**

    b. How can I be **more helpful for our next session?**

2. What have you **accomplished this week** in relation to your use of the steps of the intervention?

3. What is a **goal for next week** in relation to your use of the steps of the intervention?

4. In what ways did we **effectively communicate this week** (e.g., active listening, understanding each other's perspective, maintaining confidentiality, etc.)?

a. How did this impact your use of the intervention steps?

Steps of Intervention on Back

Appendix B, continued

Teacher-Coach Feedback Form

Steps of the Intervention: Break Card System

Steps	Example(s)
Step 1: **Present card** on desk or posted in clearly visible place	"Student, here's your break card."
Step 2: **Teach expectations** for **a) how to ask for break and b) for desired behavior**	"Student, remember to ask/tell me if you need to take a break. You can say, "Teacher, I need to take a break." "Remember, if you want to earn ____, you will need to _____."
Step 3: **Prompt student to use card** as soon as problem behavior starts to occur	"Student, when you_____, it's time to take a break." "Student, you can either take a break or you can _____ (task other students are engaged in)."
If student takes a break, skip to step 4	
If student refuses a few times to take a break repeat steps 2,3, and praise for any progress towards desired behavior	
If student continues to refuse and escalates, disengage and follow regular school procedures	
Step 4: **Provide praise for a) taking the break; and/or b) not needing to take a break**	"Student, nice job taking a break! You earned a sticker for choice time!" "Student, you earned choice time because you _____! Great job!"

Praising Students for Behavior

Why?	Praise is a powerful teaching strategy for changing behavior. Easy to use Students showing challenging behavior often require high levels of praise.
How Often?	Very high frequency (e.g. every minute) For every correction, praise student at least 3 times
For What?	Replacement behavior Other desired behaviors
How?	Behavior Specific: *You are sitting criss-cross, apple-sauce. Great job!* *You are sitting with the group and ready to learn. Nice work!* *You earned a sticker for (student behavior).* *Here's a point for you for (student behavior).* Non-Specific: *Good job! Nice work! Keep it up!*

Appendix B, continued

Teacher-Coach Feedback Form

Steps of the Intervention: Providing Choices

Steps	Example(s)
Step 1: **Expectations** on desk or posted in clearly visible place	"Student, these are your expectations for (task/activity)."
Step 2: **Teach expectations** for **task**	"We are going to work on (task/activity). When we do (task/activity) you sit on the carpet with your hands to yourself and your eyes on the speaker." "Remember, when we (task/activity) you will need to (student behavior)."
If student meets expectations, provide praise for meeting expectations and go to step 3	
If student does not meet expectations, repeat step 2, then skip to step 3 ***Repeat as needed***	
Step 3: **Provide choices** for student when student does not meet expectations	"Student, you can (option 1) or you can (option 2)."
If student complies with choices, skip to step 4	
If student continues to refuse, repeat as needed *If student escalates to unsafe behavior, disengage and follow procedures as outlined by coach*	
Step 4: **Provide praise for meeting expectations**	"Student, you met expectations for (task)! You earned choice time!" "Student, great job meeting expectations for (task!)! Keep it up!"

Praising Students for Behavior

Why?	Praise is a powerful teaching strategy for changing behavior. Easy to use Students showing challenging behavior often require high levels of praise.
How Often?	**Very high frequency (e.g. every minute)** **For every correction, praise student at least 3 times**
For What?	Replacement behavior Other desired behaviors
How?	Behavior Specific: *You are sitting with the group and ready to learn. Nice work!* *You earned choice time for (student behavior).* *You earned a tally for (student behavior).* Non-Specific: *Good job! Nice work! Keep it up!*

Appendix C

Coach Action Plan

To Be Completed by Coach & Submitted to Researcher

1. **Reflect on the feedback you received from the teacher.**
   - **a.** What are areas of strength in the coaching session?

   - **b.** In what ways might you improve upcoming coaching sessions? Why?

   - **c.** How did your action plan from last week impact the teacher's use of the interventions?

2. **Action Plan:** Come up with 1-3 specific steps you might take to improve your coaching sessions. These steps could be the same or different as steps from prior weeks, based on the feedback from your teacher. **Refer to handout titled Coaching Strategies: Building Alliance.**
   - **a.** Step:

   - **b.** Step:

   - **c.** Step:

Appendix D

Teacher/Consultant Alliance Scale

Used with permission from Wehby, et al., (2012)

Directions: *Circle the appropriate descriptor that best represents your experience with the teacher or consultant with whom you have been working.*

1. The teacher/consultant and I agree on what the most important goals for intervention are.
   1 = Never 2 = Seldom 3 = Sometimes 4 = Often 5 = Always

2. I feel confident of the teacher/consultant's ability to help the situation.
   1 = Never 2 = Seldom 3 = Sometimes 4 = Often 5 = Always

3. The teacher/consultant communicates effectively.
   1 = Never 2 = Seldom 3 = Sometimes 4 = Often 5 = Always

4. The teacher/consultant and I trust one another.
   1 = Never 2 = Seldom 3 = Sometimes 4 = Often 5 = Always

5. The teacher/consultant is approachable.
   1 = Never 2 = Seldom 3 = Sometimes 4 = Often 5 = Always

6. The teacher/consultant and I are working together collaboratively to improve the situation.
   1 = Never 2 = Seldom 3 = Sometimes 4 = Often 5 = Always

7. I feel satisfied with the utility and practicality of the suggestions and ideas provided by the teacher/consultant.
   1 = Never 2 = Seldom 3 = Sometimes 4 = Often 5 = Always

8. The teacher/consultant followed through with commitments and responsibilities.
   1 = Never 2 = Seldom 3 = Sometimes 4 = Often 5 = Always

9. Overall, the teacher/consultant has shown a sincere desire to understand and improve the situation.
   1 = Never 2 = Seldom 3 = Sometimes 4 = Often 5 = Always

10. The time spent working with the teacher/consultant was effective and productive.
    1 = Never 2 = Seldom 3 = Sometimes 4 = Often 5 = Always