

THE USE OF COACHES TO SUPPORT SPECIAL EDUCATION TEACHERS: A
MODEL OF EFFECTIVE COACHING

by

Michelle M. Roper
A Dissertation
Submitted to the
Graduate Faculty
of
George Mason University
in Partial Fulfillment of
The Requirements for the Degree
of
Doctor of Philosophy
Education

Committee:

_____ Chair

_____ Program Director

_____ Dean, College of
Education and Human
Development

Date: _____ Spring Semester 2014
George Mason University
Fairfax, VA

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Michelle M. Roper
Master of Education
Virginia Commonwealth University, 2001

Director: Michael Behrmann, Professor
College of Education and Human Development

Spring Semester 2014
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Fairfax, VA



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DEDICATION

This is dedicated to my family for their unending support in this endeavor. To my husband and best friend Greg, and my wonderful boys Tyler, Bryce and Dylan. I would not have been able to complete this without your love and encouragement. This is also dedicated to my Mom and Dad, who have supported me for many years in my pursuits in higher education.

ACKNOWLEDGEMENTS

I would like to acknowledge the support of my dissertation committee, Dr. Michael Behrmann, Dr. Frederick Brigham, and Dr. Theodore Hoch. Thank you for your patience and encouragement to remain persistent and complete this research. I have the greatest respect and admiration for each of you and all that you have contributed to the field of special education.

Thank you to the schools and principals who warmly welcomed me into their buildings to complete this study. Your schools are filled with a love for children and a passion for learning.

My deep appreciation goes to the participants of this study. I am grateful for your time and efforts and will forever remember each of you and your willingness throughout this research.

I would especially like to thank all my friends, co-workers and family who patiently encouraged me through phone calls, emails, and texts late at night to keep me motivated.

Lastly, I would like to acknowledge all of those in the field of special education. May we always recognize and appreciate all children for their talents, needs and personalities and see them as individual treasures.

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ABSTRACT

THE USE OF COACHES TO SUPPORT SPECIAL EDUCATION TEACHERS: A MODEL OF EFFECTIVE COACHING

Michelle M. Roper, Ph.D.

George Mason University, 2014

Dissertation Director: Michael Behrmann

A three part experiment was conducted to investigate the effects of coaching as a support for special education teachers, and the impact that coaching has on teacher behavior. First, 6 focus group dyad interviews were conducted utilizing a coach and special education teacher, for a total of 12 participants. The purpose of the focus group was to gather information regarding previous teaching experience and to ascertain characteristics the participants perceived exemplify an effective coach. Second, using a single subject analysis, the 6 dyads were divided into two groups. Group One consisted of coaches that described and presented an effective classroom strategy to the teachers, while Group Two contained coaches that demonstrated the strategy through interactive modeling with the teachers. Lastly, the dyad groups participated in follow-up interviews to further examine the effects of coaching with modeling versus non-modeling, on the behavior of the teacher. Results indicated that both coaches and teachers perceive collaboration as critical component to effective coaching. Teachers who received

interactive hands-on modeling used the strategy at a greater rate, which was maintained over time. Follow up interviews reflected the need for practice and feedback from the coach in order to effectively use the strategy.

CHAPTER I: INTRODUCTION

Relevance of Study

Performance feedback is a strategy that has been used in a variety of organizational settings to change behavior and improve staff performance (Alvero, Bucklin & Austin, 2001; Balcazar, Hopkins & Suarez, 1987; Simonsen, MacSuga, Fallon, Sugai, 2013; Solomon, Klein, & Politylo, 2012). Extensive research has suggested that feedback is an effective strategy; however, the differential effectiveness of feedback is widely dependent on the dimensions of the performance or the behavior that requires changing (Balcazar, Hopkins & Suarez, 1987). Regardless of implementation, the purpose of feedback and staff training is to improve actual performance and increase the use of effective practice (Baer, Wolf & Risley, 1968; Demchack, 1987; Simonsen, MacSuga, Fallon, Sugai, 2013) and in the case of residential and educational settings, it is ultimately to improve the behavior of one's client or student.

There has been extensive research on the use of coaching in residential settings (Parsons, Reid & Green, 1993) in order to train direct-care staff to implement procedures and strategies that have been effective for their clients. However, the prevalent concern of researchers and practitioners has been how to maintain the effects of coaching over time, the skills that were provided through training (Parsons & Reid, 1995). The ability to appropriately incorporate feedback into various service settings has been viewed as an issue that has remained problematic over time, regardless of the level of training of

supervisors and staff. In light of this, supervisors have long been the focus of providing support and feedback to staff and help to provide a motivating work environment (Parsons, Reid & Crow, 2003; Simonsen, MacSuga, Fallon, & Sugai, 2013).

In various educational settings, there has been research regarding the use of coaching for new teacher training and supervision for beginning special education teachers (Clifford, Macy, Albi, Bricker & Rahn, 2005). However, models for new teacher training most often do not include interactive experiences beyond initial clinical training and preparation programs. Most importantly, although there is research on the supervision of new special education teachers, there is little research concerning any hands-on supervisory experience.

In addition to the previous literature regarding feedback and supervision, there has also been extensive research in behavioral staff management (Parsons, Shepis, Reid, McCarn, & Green, 1987), some of which used brief coaching, or supervisory prompting and modeling, in order to train staff. Behavioral techniques are critical to improve the life of children with disabilities, and staff competence plays a critical role in the success of those techniques (Jahr, 1998). Although there has been an increase in the knowledge of providing effective behavioral treatment, there have been continued shortcomings regarding the staff who work with students and clients on a regular basis (Parsons et. al., 1993).

A greater part of the research that has been published on supervision and training of special education teachers revolves around clinical supervision during student teaching, or upon entering the classroom as a new teacher (Clifford, Macy, Albi, Bricker,

& Rahn, 2005; O'Reilly, Renzagalia, Hutchins, Koterba-Buss, Clayton, Halle, & Izen, 1992). While field experiences are generally considered to be a valuable in bridging the gap between conceptual skills gained at a university and the reality of a classroom, the type of guidance and feedback that is often part of field experiences generally do not extend beyond the student teaching time frame. Special education teachers are expected to be well-trained and highly competent with the teacher preparation they have received, and are most often required to regularly attend in-service training sessions immediately after employment and throughout their career in order to update and gain new skills (Demchak, 1987). Although training sessions are generally continued throughout the career of an educator, experiences within the classroom that mimic field experiences are infrequent and have limited presence in the literature.

Statement of Problem

There is limited research regarding the use of supervisory coaching using modeling and feedback in both residential and educational settings. There is very little research on the use of a systematic coaching using a hands-on modeling approach in classrooms for special education teachers. This is particularly problematic given that there are many areas where coaching using specialists is currently a common practice in school divisions within the special education classrooms.

Therefore, the purpose of this research will be to use a mixed methods approach to examine the effects of coaches who model versus coaches who do not model.

Coaching throughout the following research is defined as supervisory feedback and

instruction that is skill focused, which may involve modeling and hands-on interactions, between the coach and the teacher.

Research Questions

The purpose of this study was to measure the impact of coaching on teaching behavior. This will be accomplished by answering the following research questions:

- 1) In what ways do teachers currently utilize the help of coaches in their classrooms?
- 2) Will a coach who models a strategy have a different effect on teacher behavior compared to a coach who does not model?
- 3) How will special education teachers and coaches perceive modeling versus not modeling as a practice in the classroom?

CHAPTER II: LITERATURE REVIEW

The purpose of this chapter is to provide a comprehensive review of the literature related to the history of performance feedback in various educational, residential, and institutional based settings. This chapter will describe in detail past research regarding performance feedback in relationship to teaching and behavior management. In addition, it will review ways in which coaching and classroom supervision have been implemented in previous research, with a focus on research that has been directed at a modeling or hands-on approach for training of special education teachers.

Historical Perspective of Performance Feedback

The history of research regarding feedback in order to change performance began most prominently with groundbreaking studies in the area of organizational management. Performance feedback had previously been defined as information provided to individuals about the quantity or quality of their past performance (Balcazar, Hopkins, & Suarez, 1986) and more recently as monitoring a behavior of concern by providing feedback to the individual regarding that behavior (Noell, Witt, LaFluer, Mortenson, Ranier, & LeVelle, 2000). In a review of previous feedback literature, Balcazar et. al., (1986) determined that although feedback can be effective, it should not be expected to uniformly have positive effects of performance. In addition, their review indicated that adding rewards and goal setting procedures to feedback increases the consistency of its effects.

The lack of uniformity regarding feedback as a strategy has caused researchers concern (Alvaro, Bucklin & Austin, 2001), which is largely due to confusion of the various definitions and terminology that are not consistent across the literature. Despite these concerns feedback has continued to be widely used in the area of organizational management. Alvaro et. al. (2001) conducted a thorough update to the review completed by Balcazar et. al. (1986) and found that research has demonstrated performance feedback can be used successfully in a variety of organizational settings. Several of the findings that were similar in both reviews suggested that feedback cannot uniformly improve performance, although the addition of other procedures can tend to improve the stability of feedback effects.

Feedback has been used for research in isolation, but in addition, it has been demonstrated in previous literature to be most effective when used in combination with other procedures (Alvaro et. al., 2001; Balcazar et. al, 1986; Reid & Parsons, 1996; Sigafoos, Roberts, Couzens, & Caycho, 1992; Simonsen, MacSuga, Fallon, Sugai, 2013). Combinations in previous research were found to include feedback and antecedents, feedback and behavioral consequences, feedback and goal setting, and feedback antecedents and behavioral consequences. Bernstein (1982) designed an interactive framework in order to examine the relationships between using various feedback procedures and the difficulty with maintaining and generalizing those skills. She determined that there is a need for behavior change agents and further research in order to determine the effectiveness of various procedures such as modeling and feedback and general problem solving skills, as well as training the trainers.

More recently Sanetti, Fallon, and Collier-Meek (2013) supported that performance feedback has a large body of historical evidence in school settings, however the questioned the fidelity of treatment integrity. The researcher is typically the person engaging in the consultative process with the teacher in previous performance feedback research, and although this may be effective it is not something that is typical in a school setting, which leads to questions of generalization. Sanetti et al. (2013) demonstrated that one way to address this is through the use of consultants internal to the system in which the research occurs. This would allow for a greater extent of performance feedback for those teachers who require a greater level of support.

Training in Residential and Direct-care Settings

The first and foremost purpose behind behavioral investigations is to improve actual performance (Baer, Wolf, & Risley, 1968; Jahr, 1998). Despite innumerable training sessions, in-services, and supervision, if the results do not have an impact on the performance of the teacher or the behavior of the client or student, then the ultimate goal has not been met. Previous research has indicated that there are numerous variables that can influence the effects of training on performance and have suggested that an increased emphasis should be placed on staff training and management and improved outcomes in direct care settings (Jahr, 1998; Parsons, Reid, & Green, 1993; Reid & Green, 1990). Since the judgment of training programs should be related to their effectiveness on outcomes for the client, the limitations and concerns with transfer of training should be considered.

Paraprofessionals in settings that provide direct care are typically hired without and formal education or training. It is then incumbent upon the certified professionals and supervisors to train staff to competently perform their required duties, which can be of concern if the professionals do not have the necessary skills for training (Reid, Parsons, & Green, 1989). This is of particular concern as clients in residential and direct care settings can demonstrate severe aggression that requires specialized training in strategies such as crisis intervention (Temple, Zgaljardic, Yancey & Jaffray, 2007).

Reactivity and Staff Performance

One limitation in observation and measuring staff performance has been reactivity, which refers to the influence that awareness of observation procedures exerts on observable behavior (Kazdin, 1979). The obtrusiveness of assessment can be that, in varying degrees, the subjects are aware that an assessment is taking place. In 2007, Brackett, Reid, and Green, examined the effects of reactivity on staff performance and found knowledge that one is being observed to be a key factor in maintaining improved performance. After training two job coaches and measuring their behavior using conspicuous and inconspicuous observations, they found that the coaches completed none of the activities during inconspicuous training, and all of the activities during conspicuous training.

Codding, Livanis, Pace, and Vaca (2008) also investigated the effects of reactivity and performance feedback. Their research focused on the implementation of a class wide behavior plan, with observer-present and observer-absent conditions, conducted with an alternating treatments design. Their results suggested that performance feedback rather

than observer reactivity was responsible for positive behavior changes as a result of the behavior improvement plan. However, one limitation was that maintenance data were not collected to determine if the effects lasted over time.

Maintenance and Staff Performance

Implications of this previous research suggest that staff performance improvements brought about through training can be difficult to maintain over time. Maintenance of performance improvement post-training has historically been mentioned in the literature and has continued to remain a challenge for researchers (Sanetti, Fallon, & Collier-Meek, 2012; Smith, Parker, Taubman, & Lovaas, 1992).

As early as 1974, Pommer and Streedback implemented a strategy to change staff behavior in the form of posting staff duties and procedures that were to be implemented with each child. The postings resulted in an immediate change in staff behavior and performance; however, the results were short-lived and quickly diminished. Similarly, Fleming and Sulzer-Azaroff (1989) examined the use of performance feedback to train staff to teach patients with developmental delay. Although there was an initial modest gain, these results were not maintained over time. Difficulty with maintenance was again examined in a study completed by Ducharme and Feldman (1992) examining effectiveness of different strategies to promote generalization and maintenance of staff skills. They found that general case training, or the use of performance based training with simulated clients, was most likely to result in generalization to other clients and settings, as well as maintenance over time.

Burch and Reiss (1987) were aware of the difficulty with generalization of skills by direct care staff, and developed a competency-based training using a videotape training package. They found that staff performance in conducting activities improved after the training package, and furthermore the skills were maintained over a three week period. Furthermore, this research indicates that “hands-on” training could be effective at maintaining staff training and performance over time.

Previous research has investigated other various strategies used to alter staff behavior and improve the management of staff in residential settings. Supervisory praise and vocal feedback, written feedback, contingent money, group contingencies, various reinforcing stimuli, self-recording and behavioral lotteries are all strategies that have been implemented in research (Burg, Reid, & Lattimore, 1979; Demchak, 1987; Panyan, Boozer, & Morris, 1970; Wilson, Reid, & Korabek-Pinkoweski, 1991). Follow up measures on the aforementioned strategies revealed variability indicating that a clear and effective strategy had not been demonstrated. Fleming, Oliver, & Bolton (1996) were able to maintain the effects of a program using a competency based supervisory training program. This intervention focused on training versus instructions in the form of modeling, role-play and feedback to paraprofessional staff while on the job. The changes in the supervisory performance were associated with improvement in maintenance of the correct teaching by the paraprofessional staff. Even more significant was that the paraprofessionals reported that they benefited from the training program, supporting the social validity of modeling and role-play.

Supervisor Training

Although a substantial amount of the literature regarding training and feedback is with staff and clients, supervisors themselves are often the focus of effective training. Parsons, Schepis, Reid, McCarn, and Green (1987) completed a large-scale, long-term staff management program in order to demonstrate that implementation of management procedures in a consistent manner, and found it produced increases in student involvement in educational tasks. These results were continued through a two year follow up period, and indicated a high degree of staff acceptance. The regular involvement of management and consistent implementation of procedures were able to establish a correlation with staff performance and in turn increase the increase desired functional tasks of students.

Additional supervisory training research was conducted by Parsons and Reid (1995), when they evaluated procedures for training supervisors in residential settings to provide feedback and observation appropriate to a specific intervention package. The training improved supervisors' teaching as well as their provision of feedback. The results indicated that the supervisors who were trained in the intervention in conjunction with providing appropriate feedback produced greater maintenance of skill improvements for their direct-service staff.

It seems apparent through a review of the literature, that although performance feedback can be effective, the generalization and maintenance of feedback, training and skills can be quite challenging. There also appears to be a common thread throughout the research that points to hands-on, modeling, simulated training and video modeling, and

immediate versus delayed feedback (Macurik, O’Kane, Malanga & Reid, 2008; Parsons, Reid, & Green, 1993; Schepis & Reid, 1994) as an effective way to target these issues with generalization and maintenance. Since the effects of an intervention or strategy tend to decrease as soon as feedback or reinforcement is removed, Jahr (1998) may be accurate in stating that one way to alleviate the issues with maintenance is to integrate the procedures and interventions as a stable part of the daily environment.

Staff Training in Special Education Settings

As illustrated throughout the previous literature, a majority of the research in the area of performance feedback and training has taken place in residential settings. According to Demchak (1987), “Unfortunately, the special education settings in which staff training investigations have most frequently occurred are institutions and hospitals. Investigations in less restrictive environments, such as schools and classrooms, are less frequent” (p. 205). Over the years since Demchak (1987) wrote this, there have been a limited number of articles published on staff training in special education classrooms and others have indicated the need for research on staff performance in various settings (Reid & Whitman, 1983).

A greater part of the research that has been published on supervision and training of special education teachers revolves around clinical supervision during student teaching, or upon entering the classroom as a new teacher (Clifford, Macy, Albi, Bricker, & Rahn, 2005; O’Reilly, Renzagalia, Hutchins, Koterba-Buss, Clayton, Halle, & Izen, 1992). While field experiences are generally considered to be valuable in bridging the gap between conceptual skills gained at a university and the reality of a classroom, the

type of guidance and feedback that is often part of field experiences generally do not extend beyond the student teaching time frame. Special education teachers are expected to be well-trained and highly competent, and are most often required to regularly attend in-service training sessions immediately after employment and throughout their career in order to update and gain new skills (Demchak, 1987). This training that occurs outside of the classroom does not always result in improved practices when it is done alone (Simonson, MacSuga, Fallon, & Sugai, 2013).

Another common practice throughout the United States is the use of a mentor, or a formal mentor program, when a new teacher is assigned a veteran teacher to provide support in the first year of teaching (Sundli, 2007). Mentor programs are meant to target the issue of teacher retention, in particular the high percentage of first year teachers who leave the profession or move to another school (Waterman & He, 2011). While mentoring is common practice, this research speaks to relationship building as the main output of this methodology, rather than specific teacher training.

Teacher training and experience plays a large role in how effective a classroom intervention can be. Over the years, it has been difficult to assess whether or not teachers can, or even have the ability to use procedures that are demonstrated to be effective by the literature (Koegel, Russo, & Rincover, 1977). Concern over how special education teachers can use training sessions to effectively implement intervention techniques has long been a concern in the literature (Peck, Killen, & Baumgart, 1987). In addition, the limited time that is available for teachers to participate in additional continuing education

and training is a significant barrier to disseminating and understanding current research findings (Lerman, Tetreault, Hovanetz, Strobel & Garro, 2008).

Recent demands for high levels of accountability in our education system have placed increased pressure on special educators to use evidenced-based practices (DiGennaro, Martens, & Kleinmann, 2007; Reid, 2010). The extent to which teachers use and implement interventions consistently and effectively has been referred to as treatment integrity (Noell, Witt, LaFleur, Mortenson, Ranier, & LeVelle, 2000; Solomon, Klein, & Politylo, 2012). Teachers need to learn effective ways in which to implement interventions by acquiring new skills and incorporating them into their teaching repertoire. Performance feedback can have an impact on teachers learning new skills, but what is needed is an efficient and cost effective manner in which to train, monitor and reinforce teacher effectiveness, as well as minimizing wherever possible the time required to conduct successful staff training (Ingham & Greer, 1992; Parsons, Reid, & Green, 1993).

A series of investigations by Noell (2000) and his colleagues have examined teacher integrity of implementation after initial training and following performance feedback. They found that data review and performance feedback by a consultant resulted in high levels of treatment integrity for all teachers. In a similar study conducted by DiGennaro et al. (2005), teachers received daily written feedback regarding their accuracy in implementing an intervention. Teachers were reinforced for implementing the intervention with 100% accuracy by avoidance of meeting with a consultant to review

any missed steps. The integrity was maintained at high levels even after the training package was removed.

However, given the literature on performance feedback for special education teachers, there is often difficulty demonstrating treatment integrity. For example, Jones, Wickstrom, and Friman (1997) measured teacher and student behavior using consultation alone and consultation with immediate feedback. Levels of treatment integrity ranged from 9% to 36%, and the researchers pointed out the challenges with treatment integrity as an area that required significant additional research before generalization of findings to other teachers could be a consideration.

It is important to note that the standard approaches for training including inservices, are not necessarily sufficient to improve practice or to address students with a high level of need (Petscher & Bailey, 2006; Simonsen, MacSuga, Fallon & Sugai, 2013). Petscher and Bailey addressed this concern with their study that focused on training for special education teachers to implement a token reinforcement system based on training they had received through an inservice in their public school setting as the baseline condition. A treatment package of prompting and accuracy feedback was implemented and results showed significant improvements for all participants. The implications of this research indicate that training with a multifaceted approach can increase treatment integrity.

The previous research suggests that teacher implementation requires ongoing support from direct coaches, consultants, or supervisors in order to implement intervention plans consistently and accurately. Other research has implied that there can

be progressive thinning of performance feedback and reinforcement, and that teachers can maintain high levels of treatment integrity (DiGennaro et. al., 2007). However, additional exploration is required to determine why teachers improve their quality of treatment with the assistance of a consultant, although they will also perform with greater accuracy in order to avoid working with a consultant (Noell, Witt, & Gilbertson, 1997).

Some have expressed concern with the idea that simply providing teachers with feedback and inservices is sufficient to enhance the existing patterns of teaching (Gersten & Dimino, 2001; Peck, Killen, & Baumgart, 1989). Part of the concern rests on the way that feedback is often provided on a delayed schedule after a supervisor observes a lesson days or even weeks before, leaving the teacher to continue practicing ineffective instructional habits (Goodman, Brady, Duffy, Scott, & Pollard, 2008). Recent literature suggests that teachers need ongoing support and a change agent that is truly knowledgeable and able to provide specific feedback to teachers. Reid (2010) suggested that many of the issues with effective training are a result of staff being expected to carry out a job when they have not been trained on how to perform its duties. Furthermore, staff can include paraprofessionals who are expected to carry out intensive programs for students with highly individualized interventions, designed by specialists who do not routinely take part in the implementation.

Gersten et. al. (2001) more specifically pointed out that concreteness, specificity, and intensity are needed in teacher training, and that research should be translated into manageable teaching strategies. In order to be the most effective, special education teachers require knowledge about practices and interventions, and the skills to

carry them out. The end result is that teachers economize their energy and effort and produce superior results.

Modeling

Modeling as a concept first was introduced by Bandura (1977) as an intervention that was effective in children's acquisition of skills. Modeling is the process of demonstrating a particular behavior for another person (Demchak, 1987) or is also known as a demonstration of a correct application of a procedure followed by an opportunity for another person to apply the same procedures (Jahr, 1998). Modeling typically occurs in combination with other procedures such as role-play, feedback, and/or reinforcement. It is thought that individuals often respond to modeling because of their past reinforcement history which includes a sizable amount of reinforcement for imitation (Bandura, 1969).

Modeling has been demonstrated as an effective strategy for changing staff behavior, and furthermore is a strategy that has shown to be maintained over time (Demchak, 1987; Wallace, Davis, & Liberman, 1973). Modeling has also been used effectively in the form of role-play where the experimenters conduct the sessions with the students, rather than the teachers (Lerman, Tetreault, Hovanetz, Strobel & Garro, 2008; McGimsey, Greene, & Lutzker, 1995; Schepis, Ownbey, Parsons, & Reid, 2000). In addition, instructions alone have been demonstrated to be inefficient at maintaining changes in staff performance, while modeling is demonstrated to maintain effects due to the pairing of instruction with immediate reinforcement (Realon, Lewallen, & Wheeler, 1983; Sarokoff & Sturmey, 2004; Sarokoff & Sturmey, 2007; Schepis & Reid, 1994).

Research has suggested for some time that modeling is an effective technique for training teachers to implement interventions and techniques. In 1997, Koegel, Russo, and Rincover conducted a study in which teacher training was conducted to teach an unfamiliar intervention strategy. Every five minutes a trainer would interrupt a session of teaching and provide feedback according to the operational definitions. Feedback was brief in order to produce minimal interference with the session. If errors occurred during any part of the session the trainer would inform the teacher and model the correct implementation of the procedure. Results showed that there was systematic improvement of training the teacher to use the techniques to a high criterion, and that additionally there was improvement in student behavior. Another important element of the study was that using modeling as a technique allowed the teachers to generalize the skills across students and behaviors.

Similarly Lerman, Tetreault, Hovanetz, Strobel, and Garro (2008) investigated the outcomes of a modeling program designed to train teachers of students with autism. The teachers were taught specific skills over a five day program that included preference assessment and direct teaching. The in-class training consisted of modeling and practice with feedback, and the criterion for mastery was 100%. The results showed that the teachers met mastery criteria for each of the goals during the training, and observations up to six months after the training suggested that the skills had generalized into their classrooms.

Video modeling and video self-modeling (VSM) is another technique that in recent years has been used to encourage individuals to imitate behavior by watching

others or themselves engaging effectively in an intervention (Duchaine, Jolivette & Fredrick, 2013; Hawkins & Heflin, 2012). Video modeling involves demonstration of desired behavior through a video representation of that behavior (Bellini & Akullian, 2007). Video modeling is often combined with other strategies such as prompting and self-monitoring and has been demonstrated to be highly effective. This is yet another demonstration of the power of modeling as a strategy based on the history of its effect in research.

In summary, modeling is an effective component of teacher training and the research described in this literature review supports modeling as a valid approach.

Coaching

Coaching is not a term used as frequently in the literature but has been referred to as immediate in class feedback that has an immediate effect on teacher behavior (Goodman, Brady, Duffy, Scott, & Pollard, 2008). Goodman et. al. conducted a study in which “bug-in-ear” was used as an immediate feedback to improve instruction. Their results showed that rate and accuracy of effective teaching behaviors were increased and that the increases were maintained over time when the feedback was faded.

Another important variables to affect the success of personnel is the behavior of the supervisor, coach or change agent and the quality of the supervision provided (Green, Rollyson, Passante, & Reid, 2002). There has been limited research to target supervisor performance; therefore, Reid et. al. (2002) sought to compare supervisors who provide the typical indirect and delayed feedback, with those who gave feedback based on actual observation of performance. They found that direct feedback corresponded to higher

levels of staff performance relative the indirect feedback style. Jensen, Parsons, and Reid (1998) attributed the significant concerns over maintenance and difficulty with supervision given common obstacles such as staff turnover, reorganization and budget constraints. Literature reviews have consistently called out for research evaluation the long term effects of management procedures.

The role of consultation between coaches, supervisors, and consultants, who may provide direct services to teachers, has been a source of disagreement between researchers (Noell, Gresham, & Duhon, 1998). One aspect where researchers can concur is that there needs to be an effort from both the consultant and the teacher for collaboration or collaborative work. In addition, Noell, Witt, LaFluer, Mortenson, Ranier, & LaVelle (2000), found that de-briefing daily after implementation of an intervention could be helpful at building a collaborative relationship. Written performance feedback following coaching can be used as a method of debriefing that has also demonstrated recent success (Duchaine, Jolivette, & Fredrick, 2013).

Training staff to implement evidenced-based practice involves describing the steps of an intervention, summarizing the intervention, demonstrating the intervention for the staff, letting the staff perform the steps, and provide support and corrective feedback until mastery (Reid, 2010; Reid, Parsons, Lattimore, Towery, & Reade, 2005). This type of performance based training can require more effort and time than verbal-based training; however, performance based training is more likely to be effective in ensuring that staff can carry out the practice of concern.

An additional important element for success in an intervention is how supervisors or consultants motivate staff; a characteristic that is often considered to be an important in an effective supervisor, coach or consultant. In a study completed by Parsons, Reid, and Crow (2003), supervisors were surveyed to provide insight into the most effective ways to motivate staff. While 93% of the supervisors reported that it was extremely important to motivate their staff, only 16% of supervisors reported that they were able to motivate their staff effectively. In addition supervisors reported that positive interactions and feedback with their staff were the best motivational strategies, while providing rewards was the least effective.

Following coaching using performance-based feedback, teachers were shown to use significantly more of the skills in a study completed by McCollum, Hemmeter, and Hsieh (2013). They found that targeted skill coaching may have a greater impact in the classroom. This leads to the idea that coaching and modeling in combination can lead to a greater impact on teacher behavior.

Modeling and Coaching in Combination

While there is clear historical evidence of the previous strategies that have been used for teacher training, there is consensus that training alone does not lead to a change in teacher behavior (Simonsen, MacSuga, Fallon & Sugai, 2013). Rather, it is the combination of approaches that is more likely to lead to the teacher implementing evidenced-based classroom management strategies that improve student outcomes.

While modeling is known as a demonstration of a correct application of a procedure followed by an opportunity for another person to apply the same procedures,

and coaching is known as immediate feedback to the teacher in classroom that has an immediate effect on their behavior, the two are clearly different strategies. Both have proven to be effective through research and in combination may prove to have the greatest change in teacher behavior. There is a limited evidence base that suggests a combination of the two approaches, including coaching and practice within the classroom, can have a greater effect on teacher behavior (Simonsen, Myers, & Deluca, 2010). Specifically the combination of repetitive demonstration and practice in combination with performance feedback could work together to impact teacher knowledge and practice in daily instruction. Therefore, this research sought to further examine the use of coaching and modeling in combination, and to examine the effects of that intervention on teacher behavior.

Summary

There is limited research regarding the use of supervisory coaching using modeling and feedback in combination. In addition, there is very little research on the use of a systematic coaching using a hands-on modeling approach in classrooms for special education teachers. Based on the previous research hands-on modeling with feedback has been demonstrated as an effective strategy. Therefore it is clear that the questions of this investigation are critical issues that need to be addressed.

CHAPTER III: METHOD

This chapter will present the methodology of the three parts of this study that investigated the use of modeling to impact teacher behavior. It is therefore a mixed methods study. Part 1 of the study will describe the focus group dyad interview, Part 2 will describe the single subject research, and Part 3 will describe the follow up dyad interviews. Descriptions of the participants, measures, setting, research design and procedures will be clearly defined.

This mixed methods research will investigate:

- 1) In what ways do teachers currently utilize the help of coaches in their classrooms?
- 2) Will a coach who models a strategy have a different effect on teacher behavior compared to a coach who does not model?
- 3) How will special education teachers and coaches perceive modeling versus not modeling as a practice in the classroom?

Participants

There were twelve participants in this study, which included six special education teachers and six coaches. The coaches and special education teachers selected for participation were employed in a public school system located in a county in the mid-Atlantic United States. The coaches were defined as specialists who have advanced technical skills and knowledge, and provided support to teachers on a consultative basis. Each of the twelve participants possessed a valid state teaching certificate at the time of

the study. As part of their job description, each coach supported teachers in designing and delivering instruction to students throughout the division in which they were employed. All participants who met the criteria were accepted for participation in the study regardless of age, sex, ethnic background or other various characteristics. For demographic information about the participants see Table 1.

The special education teachers were selected from four schools who agreed to participate in the study through the school divisions review board. All special education teachers who taught in a self-contained setting at the four schools were offered an opportunity to participate. The first six teachers who responded were selected as participants. Similarly, all persons in the school system who met the definition of a coach were invited to participate, and the first six responses were chosen for participation. None of the participants had worked with each other in a professional relationship prior to this study.

The twelve participants were randomly placed into pairs of coach a teacher for a total of six pairs. The pairs were then randomly placed into Group 1 and Group 2. Therefore, there were three pairs A-C in Group 1 and three pairs D-F in Group 2.

Setting

The four schools who participated in the three parts of this research were from a public school system located in a county in the mid-Atlantic United States. All four schools contained special education programs designated for various populations of students with disabilities. This included students with autism, intellectual disabilities,

multiple disabilities, and other health impairments. All of the schools that participated in the study were in elementary buildings with students in kindergarten through fifth grade.

Table 1
Demographic Information of Participants

Group	Age	Gender	Years of Teaching Experience	Years of Coaching Experience
A				
Teacher A	55	Female	13	--
Coach A	36	Female	5	5
B				
Teacher B	38	Female	12	--
Coach B	40	Male	9	3
C				
Teacher C	38	Female	3	--
Coach C	47	Female	7	3
D				
Teacher D	47	Female	1	--
Coach D	40	Female	10	8
E				
Teacher E	59	Female	19	--
Coach E	57	Female	11	20
F				
Teacher F	42	Female	2	--
Coach F	49	Female	15	2

Part 1: Focus Group Dyads

Focus Group Interview Research

Focus groups are discussions that explore a specific set of issues (Barbour & Kitzinger, 1999) and gather data from individuals who have experienced certain situations (Stewart, Shamdasani, & Rook, 2007). Focus groups can be used as a single method of research, or in conjunction with other methods as preliminary research or follow up to clarify data (Ashbury, 1995). A focus group typically brings eight to ten people together to discuss a particular topic; however, variations of focus group formats can offer greater stability. For example, focus group interviews may be conducted over the phone or may involve mini groups. Conducting a focus interview with smaller groups can lead to a deeper emphasis on the topic and allow greater observational opportunities. Further, the use of dyads, or discussions with two participants, can cover more ground and lead to more substantial discussion regarding the topic at hand (Edmunds, 1999).

The benefit of focus group research is that it can offer an in-depth understanding of the participants' perspectives or opinions that could not be ascertained through surveys. This type of research is exploratory and is most effective when the participant is willing to share an understanding of their perceptions, attitudes and motivation (Edmunds, 1999). It can also examine points of view, context and exchanges between the participants. At the outset of this type of research, focus groups can develop a better understanding of key issues, and can complement data collected through other methods (Barbour & Kitzinger, 1999). In addition, the ability of the participants, who have a

similarity in some way, to come together and discuss a relevant topic, can lead to rich and dynamic data (Ashbury, 1995).

Measure

Six dyad groups, or pairs, participated in this portion of the study. The purpose of the focus group was to gather information regarding the participants experiences as teachers and coaches and their perceptions of what makes effecting coaching. This portion was completed using a standardized open-ended interview measure (see Appendix A). All focus group interviews were recorded using a digital Olympus voice recorder, VN-702PC.

Coding and Categorizing Data

An important aspect of qualitative data analysis is coding and categorizing data. It allows for assigning units of meaning to descriptive and inferential information that is gathered during data collection (Basit, 2003). Determining concepts that emerge are not simply theoretical insights, but the meaning and perspective of the people who are involved (Maxwell, 2005). This was an important factor in this study because coaching can be defined by the participants' experiences and perspectives.

The data for this investigation was analyzed using grounded theory (Glaser & Strauss, 1967) in order to examine the participants' previous experiences with coaching and the approaches and characteristics of effective coaching. The data were analyzed from the interviews using opening coding as described in Strauss (1987), to determine the repeated themes throughout the interviews. Axial coding was used as well to examine codes that contain similar meanings and themes that emerged from the data. Data for this

research was coded manually. The purpose of coding in this study was to organize the data from the focus group interviews into emic categories that examined how the participants perceive coaching in relationship to their previous experiences. In particular, this data determined what the participants perceive as effective coaching.

Setting and Procedure

Appropriate consent forms were completed for both the affiliated university and the public school system. Upon approval from both committees, the dyad focus group interviews were held at the school of the special education teacher participant in each dyad. The room where these focus groups took place was either a conference room in the main office, or the teacher's classroom. In all instances, the researcher, teacher and coach were the only three people in the room during the interview. Prior to initiating the focus group interview, the researcher reviewed confidentiality and consent, along with the agenda (see Appendix B) for the focus group participants. The focus group interviews took from 11 to 23 minutes to complete (see Table 2).

Table 2

Focus Group Dyad Time of Interview and Setting

Group	Time of Interview	Setting
A	12 minutes	Classroom
B	11 minutes	Conference Room
C	23 minutes	Conference Room
D	19 minutes	Conference Room
E	21 minutes	Conference Room
F	15 minutes	Classroom

Part 2: Single-Subject Analysis of Coaching with Modeling versus Coaching with Non-modeling

Single-Subject Research

In their prominent article that defined applied behavior analysis, Baer, Wolf, and Risley (1968) highlighted the importance of repeated measurements of behavior within the context of single-subject experimental design. Over time, single-subject research has been widely published and influenced practices across disciplines (Gast, 2010). Single-subject research has been recognized as a rigorous and scientific methodology to define principles of behavior, and has been used for over seventy years in studying operant principles (Horner, Carr, Halle, McGee, Odom, & Wolery, 2005). It has proven especially effective as a methodology in the field of special education for the purpose of defining practices and interventions for individual learners. Additionally, it has been identified to provide a level of rigor beyond that of which is found in traditional case studies.

Evidence-based practice has become a prevalent phrase since the turn of the millennium due to the implementation the Individuals with Education Act (IDEA) and No Child Left Behind Act (NCLB). This legislation has increased the level of accountability using “evidenced-based research” as a guiding principle for whether an intervention or program should be implemented (Gast, 2010; Horner et. al., 2005). For many in the field of applied behavior analysis (ABA) and those who practice single-subject research, the use of ABA as an evidence-based practices is standard protocol for the treatment of individuals with disabilities.

In addition to this recent legislation, the National Research Council Committee on the Educational Interventions determined that in order for research to be considered effective it has to address internal validity, external validity, and generalization (Gast, 2010). Horner et al. (2005) described components of an acceptable study further, which included the participant as the unit of analysis, the participant and setting description, dependent variables that are operationally defined, repeated measures and social significance. In addition, recording of interobserver agreement, a comparison condition, experimental control, strong visual analysis, and social validity were also described as necessary components of single subject designs.

Of utmost relevance to this study, is the importance of single-subject research as a methodology in special education. This methodology allows for focus on the individual and a functional analysis that can be determined quickly and efficiently. In addition, it is a practical methodology for analyzing the relationship between interventions and outcomes in typical educational conditions (Horner et. al., 2005). Therefore, a single subject comparison was selected for the second portion of this research study.

Participants

The participants in the second part of this study were identical to the participants in the first part of the study. Teacher and coach pairs remained as intact A-F for this portion of the investigation. Following random assignment, Pairs A-C made up group 1 and Pairs D-F made up group 2. See Table 1 for participant information.

Setting

Part two of this study was conducted within four elementary schools in a public school system located in a county in the mid-Atlantic United States. All of the classrooms where the research took place were special education classrooms for students with disabilities. The classroom of each of the respective teacher participants was the location for the teacher and coach intervention session. Each classroom consisted of the one special education teacher participant and two to four paraprofessionals at the time this research was conducted.

Token Systems

Teachers often enter their profession with a lack of behavioral and classroom management skills (Simonsen, MacSuga, Fallon, Sugai, 2013), and, in certain instances, teachers with more experience may also struggle with these skills. One of the most effective and research based methods to address classroom management and student behavior is the use of positive reinforcement systems. The benefits of reinforcement systems have been solidly established over the years and have been widely acknowledged for diverse populations (Myles, Moran, Ormsbee, & Downing, 1992; Tarbox, Ghezzi, & Wilson, 2006). In particular, reinforcement systems have been found to be effective for improving a variety of needs for students with disabilities, specifically for decreasing undesired and increasing desired behaviors (Charlop-Christy & Haymes, 1996; Thompson, McLaughlin, & Derby, 2011;).

One of the most effective reinforcement methods is the use of token economy systems. Token economies have been noted as one of the most successful behaviorally-

based applications in both educational and rehabilitative settings (Hackenberg, 2009; Matson & Boisjoli, 2009). Token systems have been used as a behavior-management strategy since the 1800's and have played an important role in applied behavior analysis (Hackenberg, 2009). They have been repeatedly demonstrated as effective in addressing challenging and interfering behaviors of students with disabilities receiving special education services, in both general and special education settings (Myles, Moran, Ormsbee & Downing, 1992).

The token economy system is one of the most commonly used types of reinforcement systems in classroom settings and has been widely utilized as a viable therapeutic method (Alberto & Troutman, 2008; Matson & Boisjoli, 2009). A token reinforcement system is a set of contingencies that develop a relationship between earning, accumulating, and exchanging tokens for a desired object (Hackenberg, 2009). Tokens are typically exchanged for objects such as manipulatives, edibles, or an activity. Although the token itself has no intrinsic value, it is established as a conditioned reinforcer through the relationship with a preferred item or event.

While token economy systems are used in a variety of ways, these methods hold considerable benefits for teaching students with disabilities, since they can be readily used in a variety of school settings (Myles, Moran, Ormsbee, & Downing, 1992). Furthermore, they have been proven to have the flexibility of being used as a program to teach alternative behavior, while adding other necessary interventions to address communication, self-help and academic skills (Lancioni, O-Reilly, Cuvo, Singh, & Sigafos, 2007; Tarbox, Ghezzi, & Wilson, 2006). More importantly, unlike other

reinforcement systems, token economies are not complex and are convenient for school settings, especially when tangible items are not readily available (Charplow-Christy & Haymes, 1998; Matson and Boisjoli, 2009).

Token systems are found to be largely effective due to the ability to use the tokens to reinforce behavior immediately after it occurs (Tarbox, Ghezzi, & Wilson, 2006). One of the potential benefits of using token systems with students with disabilities is the high level of structure which allows the desired behaviors to be reinforced consistently. In addition, token reinforcement systems can target socially valid behaviors in a variety of settings including school, home and elsewhere with the tokens given as reinforcement (Matson & Boisjoli, 2009). Token systems are clearly evidenced as an effective strategy; therefore, the token system was the strategy chosen in this investigation.

All of the teachers who participated in this study had familiarity with token systems, and all of the teachers stated that they had used them previously or were using them in their classroom. However, none of the participants had received instruction or coaching in the use of token systems prior to this research.

Independent Variable

Modeling in the use of a token system was the intervention in this single subject analysis. Half of the teachers in Group 1 received instruction in the intervention only, while the other half of the participants in Group 2 received instruction and modeling. The purpose of the intervention was to demonstrate the effects of modeling on teacher behavior.

Dependent Variable

The dependent variable for both groups was the execution of the token reinforcement strategy by the special education teacher. The operational definition of the demonstration of the strategy includes: (a) placement of tokens of the board in the presence of a desired behavior, or absence of an undesired behavior (b) immediate delivery of a reinforcer upon completion of the token board (c) completion of filling the token board with four tokens. Completion of one token board (see Figure 1) resulted in one frequency tally.

Procedures

Coach and teacher pairs were randomly assigned to the two conditions: instruction in the use of the token system and instruction in the use of the token system with hands-on modeling. Therefore, there were three pairs of a coach and teacher, pair A, B and C, assigned to Group One which had instruction only in the token system strategy, while the other three pairs of D, E and F were assigned to Group Two and received instruction and hands-on modeling. Intervention for both Group One and Group Two took place in the classroom with the students present.

All of the coaches who participated in this study had previous experience with the implementation of token systems and various classroom and individual based positive reinforcement systems. Following the completion of the focus group dyads, coaches received instructions to complete a module regarding the implementation of token systems (Neitzl, 2009). See Appendix C for a demonstration of the modules. Coaches had one week to prior to the coaching session to review the module on how to effectively

implement a token reinforcement system. The purpose of the module was to control for the variation in prior experience for each of the coaches, and to ensure that all of the coaches were instructing the teachers in how to use the token system with the same framework.

Prior to the initiation of baseline condition for both Group One and Group Two, two token boards were provided to each teacher participant (see Figure 1).



Figure 1

Token Board Used in Intervention

Teachers were instructed to collect baseline data on the number of times they filled the token board for two students who would benefit from a positive reinforcement system (see Appendix D). Baseline was the total number of times the token board was filled for both students in a 90 minute block of time. Rather than relying on another observer to collect data, self-management of teachers to collect and record data has recently been identified as an efficient method for teachers to receive instant feedback

and self-awareness of their own behavior (Simonsen, MacSuga, Fallon, & Sugai, 2013); therefore, this method of data collection was utilized for Part Two.

One day prior to the intervention phase, all coaches provided their teacher with a document to determine the behavior of concern and back-up reinforcers for each of the two students who were selected for intervention (see Appendix E and Table 3). The purpose of obtaining this information prior to the coaching session was to ensure that the time during the coaching session was not spent gathering information, but rather, solely for coaching.

Table 3

Student Behaviors of Concern

Group	Student	Behavior (Desired or Undesired)
A	1	Tolerate laughing
	2	Appropriate language
B	1	Sit for 1 minute
	2	Sit for 30 seconds
C	1	Task Completion
	2	Remain in designated area
D	1	Task completion within allotted time
	2	Body space awareness
E	1	Task Completion
	2	Comply with direction on first request
F	1	Participate with peers for allotted time
	2	Appropriate language

Group 1.

The intervention for Group One, Pairs A, B, and C consisted of one forty-five minute coaching session without modeling or feedback. The coach and teacher met in the teacher's classroom and began the coaching session by reviewing the behavior of concern for student One and Two. They then discussed back-up reinforcers for both students that could be used during the intervention. The coach reviewed the steps to use a token reinforcement system for the two students using the steps for implementing a token reinforcement system. Lastly, the coach demonstrated how to collect data (see Appendix F, G, and H) for the implementation of the token system and answered any questions that the teacher had regarding the intervention.

Group 2.

The intervention for Group Two, pairs D, E, and F also consisted of one forty-five minute coaching session with the addition of modeling and feedback. The procedures were identical to those described in Group One, however with Group Two the teachers received hands-on modeling, role play, verbal feedback and physical demonstration in the use of the token system with the two students.

Multiple Baseline Design

Baer, Wolf, & Risley (1968) introduced multiple baseline design which contain staggered baselines that are designed for evaluation threats to internal validity, examination of external validity, and demonstration of experimental control. The benefit of multiple baseline design is that there is no withdrawal of intervention and this design lends itself to implementation for research in a school or clinical environment (Gast,

2010). Multiple baseline designs can be conducted across behaviors, conditions, or participants, and begins with collection of baseline data.

There are threats to internal validity in research using multiple baseline designs, such as history, maturation, and testing. In multiple baseline design, these threats are addressed by staggering the introduction of the intervention in the study across tiers. The behaviors of measure must be functionally independent and functionally similar to demonstrate experimental control (Gast, 2010). In addition, to demonstrate prediction, verification, and replication are required to demonstrate functional control.

For this reason a multiple baseline design was selected because it will expose and control for any testing, history or maturation effects. A multiple baseline design across participants was used for coaches and special education teacher pairs for Group One (non-modeling) and Group Two (modeling and role-play). This design was chosen in order to demonstrate a possible functional relationship between modeling and teacher implementation of the token reinforcement system. The number of times that the teacher implemented the token reinforcement strategy per session for both modeling and non-modeling groups was measured, using frequency recording. When a token board was completely filled with four tokens, it equated to one frequency recording. A maintenance probe was conducted two weeks following the final intervention phase for one 90 minute session.

Social and Internal Validity

The concern that research methodology, in particular the intervention and the dependent variable, are socially valid, has been present in the literature since Baer, Wolf,

& Risley (1968). Treatment programs should always target behaviors and outcomes that are socially significant and meaningful in order to establish social validity. This can be assessed through consumer satisfaction data, and can include surveys, questionnaires, or interviews (Gast, 2010). Social validity measurement does not take the place of any part of an experiment, but rather supplements the data by providing insight into how the participants view the study.

The participant's responses in the focus group dyads clearly indicate that the relationship between coach and teacher, the need for feedback, collaboration, and communication are critical in the likelihood of the teacher implementing the interventions that the coach recommends. Teacher behavior has a direct impact on the students, and therefore is socially significant in this single subject analysis. The effects of coaching on teacher behavior will be addressed through the follow up analysis in the third part of this study. In this research, the results of the follow up data were a considerable source of data that connected the multiple baseline research with the social validity of the study.

Internal validity with single subject research requires that baseline data is collected prior to the intervention, across the individuals who participate in the study (Gast, 2010). Upon introduction of the intervention, in this case coaching with and without modeling, any changes should be observed in the participant's behavior, but not that of the other participants.

Part 3: Interviews and Reflections by Coaches and Special Education Teachers

Follow-up Qualitative Interviewing

The goal of qualitative research is to answer what is happening and why it is happening (Brantlinger, Jiminez, Klingner, Pugach, & Richardson, 2005). In qualitative design, the use of varied data allows a researcher to gain a broader understanding of the topic of investigation, and to control for the risk that the conclusions will reflect systematic bias (Maxwell, 2005). The use of qualitative research in special education has allowed for knowledge regarding the perspectives of persons with disabilities and their families and teachers of students with disabilities, and has helped to provide valid information and evidence in the field.

There are several valuable components for an interview component of a comprehensive study. Appropriate participants should be purposefully selected, there should be an adequate number of participants, and the participants should represent the population and area of investigation (Brantlinger et. al., 2005). In addition, it is important that the questions themselves are not leading, clearly worded, and appropriate to the area of interest. The interviews should be transcribed and the participants should be represented in all writing in a sensitive and fair manner. Finally, sound measures should be used to ensure confidentiality.

Participants

The participants in the third part of this study were identical to the participants from the first and second parts of the study. Pairs of teachers and coaches remained as intact pairs A-F, and Group1 and Group 2, for this portion of the investigation. See Table

1 for participant information. The purpose of the interviews was to address the social validity of the modeling versus non-modeling strategy, as well as to gather additional perceptions of the teachers and coaches regarding their experiences. Follow up interviews lasted a range of 4-12 minutes.

Measure and Data Analysis

The questions for the standardized open-ended follow up interview can be found in Appendix I and J. The data was analyzed using grounded theory (Glaser & Strauss, 1967) to examine the participants' experiences with modeling and non-modeling. The purpose of this part of the examination was to determine the perception of the effects of the interventions by all participants. In particular, examining the responses of the teacher participants who received modeling as compared to the teachers who received instruction in the intervention only was critical to understanding the social validity of this study.

CHAPTER IV: FINDINGS

Part 1: Focus Group Dyads

Pair A. Teacher A was a 55 year old female at the time of the study. She had thirteen years of teaching experience, including eleven years as a general education teacher and two years as a special education teacher. She had two years of previous experience working with a coach that supported her classroom. Teacher A had an elementary classroom that consisted of 6 students with multiple disabilities and two paraprofessionals.

In describing what she thought would make an effective coach, Teacher A described support that would have as little disruption as possible to the students in her classroom. She shared that due to the type of disability of the students in her classroom, coaching in an obtrusive way could cause the students stress. Teacher A shared that she would welcome support in her classroom that would provide her with strategies to deal with student behavior. Teacher A portrayed a coach that would listen, not demonstrate judgment, and have compassion for the students, and demonstrate respect as the primary characteristics that are essential is an effective coach. She also expected a coach to have teaching experience to reinforce his or her suggestions.

Teacher A described her job as the “best kept secret” due to her enjoyment of spending time with the students in her class and seeing the progress they were able to make. She described frustration with the paper work, meetings and other duties that interfered with her time teaching her students.

Coach A was a 36 year old female at the time of the study. She had five years of previous experience as a coach and five years as a special education teacher. In her capacity as a coach, Coach A supported general and special education teachers, guidance counselors, and administrators. She outlined her responsibilities to include provision of disability awareness, specific strategies to use for different students, behavioral techniques, and direct support to students.

In her approach to coaching, Coach A spoke to the idea that she attempted to use what was already in place in the classroom to enhance her suggestions. For example, if the teacher already had a reinforcement system on a poster on the wall, Coach A would shrink the same poster to a smaller size to place on the student's desk.

Coach A described her most important characteristic in her role as a coach as being an active listener. In addition, she shared that she met with teachers initially to see what their desired outcomes would be to her supporting them. An aspect of coaching she found enjoyable was taking ideas from the many classrooms she visited and passing them on to other teachers, while time management was seen as a challenge.

Pair B. Teacher B was a 38 year old female at the time of the study. She had twelve years of experience as a teacher, including three years as a general education teacher and nine years as a special education teacher from grades Kindergarten through Eighth grade. For nine of her years as a special education teacher, Teacher B described interactions with various adults who served the role of a coach. Teacher B had an elementary classroom that consisted of 7 students with multiple disabilities and two paraprofessionals.

Teacher B described previous support that she had received from coaches to include data collection techniques, behavioral supports, and sharing of research. She stated that having a “second set of eyes” can often be helpful to problem solve behavior. Teacher B felt that a collaborative approach was most effective in her previous coaching experiences, and that she as a teacher had to be open to making the changes that were recommended by the coach. She shared multiple times that flexibility and willingness to “get out of your comfort zone” created the most effective coaching experience. A willingness to learn new things, adapt to change, and ask for help was also a theme that ran throughout the focus group with Teacher B as part of her responsibility in collaboration with a coach.

Open communication was an important characteristic that Teacher B expressed a coach should have. She shared that in her perspective a coach should not think they have all the right answers but should also be willing to learn from their coaching experiences as well. Teacher B shared that the most rewarding aspect of her role as a special education teacher, was to see a student make what appeared to be small steps of progress, that were actually great strides for each individual.

Coach B was a 40 year old male at the time of the study. He had three years of previous experience in a coaching capacity, and nine years of teaching experience. Coach B had previously provided support to general education teachers and special education teachers in elementary middle and high school in his role as a coach.

Coach B described his previous coaching experiences to include providing positive behavior intervention support, developing trainings using research based

strategies, completing functional behavior assessments and behavior intervention plans, showing teachers how to collect data for the functional analysis process, and facilitating meetings.

He described that his preferences for initially coaching a teacher involved engaging in an interview with them to gather information regarding their concerns. Coach B stated that he typically followed up his teacher interview with a classroom observation. He described his style as collaborative in nature due to previous experiences where he had authoritatively told a teacher what to do. He states that approach was not effective. Most often in his role as a coach, Coach B expressed that he would present a strategy to a teacher, get their feedback on how they used the strategy, and then coach them from less intensive strategies to more intensive strategies. He acknowledged that special education teachers can often feel isolated, and that part of his responsibility was to help teachers when they feel that they are not successful.

During the focus group Coach B shared that collaboration does not always come easy, and that it can take listening and mediation skills to get everyone on the team to work together effectively. Coach B stated that active listening and ensuring that everyone feels they a part of the team was something that Coach B felt was a part of his responsibility as a coach. Coach B identified the most rewarding experiences in his position as a coach were the times when he saw the students who were struggling the most begin to make progress. In addition to that, he described building trust with parents as a very rewarding experience.

Pair C. Teacher C was a 38 year old female at the time of this study. She had three years of teaching experience as a special education teacher, and eight years of experience as an in home therapist working with children with disabilities. She had two previous years of experience working with a coach who visited her special education classroom. Teacher C had an elementary classroom that consisted of 8 students with autism and had two paraprofessionals.

Teacher C described clear communication and understanding were two of the attributes as characteristics that she would like to see in a coach. Problem solving and seeking solutions in multiple ways were also components that Teacher C saw as critical in the relationship between a teacher and coach. She described previous experiences where consultants had come to her classroom and rushed to judgment without the prior knowledge and experiences to back up their recommendations. She found these situations to be non-productive. In those type of experiences, Teacher C perceived that the connection between the coaching and seeing changes for students may be lost.

Teacher C described the most rewarding aspect of her role as a special educator as the time when she observed it “click” for a student so they were able to master and extend the skills she had taught. She envisioned time restrictions and differentiation of instruction while teaching multiple grade levels as the biggest challenge in her position as a special educator.

Coach C was a 47 year old female at the time of this study. She was in her third year in a coaching role, and had seven previous years of teaching experience as a special education teacher. Her responsibilities as a coach included providing reading

interventions, behavioral strategies, and development of behavior plans and implementation of positive behavioral supports.

Coach C described listening as the most significant strategy in her approach as a coach, explaining that when she was a teacher, her coaches used the “band aid” approach where they would make suggestions without follow through. She did not find that approach to be effective, so in her role as a coach she described problem solving and honest conversation in her methods of coaching. She conducted needs assessments during her classroom visits as a coach, before making suggestions for changes to the teachers she supported and then ensured follow up took place.

Clear communication, humility, and a sense of humor were attributes that Coach C thought an effective coach should demonstrate. Coach C looked upon her role as a facilitator, in that the teacher may often already have the answers they need to solve the issues in their classroom. They just might require another perspective to help them find it.

Coach C described the most rewarding aspect of her role was when she had collaborated with a teacher and saw positive results. She called this “you know it when you see it” in that there was a positive impact on the student that can be measured. She envisioned time management as the greatest challenge for her position, including finding the time to be hands on with the teachers and students.

Pair D. Teacher D was a 47 year old female at the time of the study. Although Teacher D had four years of previous experience as a paraprofessional, at the time of this study she was in her first year of teaching as a special educator. During her first year teaching she had experience with two different coaches who had provided support to

work on classroom management, classroom organization, and student behavior. Teacher D had an elementary classroom that consisted of 7 students with multiple disabilities and two paraprofessionals.

In her first year as a teacher, Teacher D had assistance from coaches with developing lesson plans, providing appropriate instruction, classroom management, and finding resources within her division. She described support that she had received from other experienced teachers in the building had helped her a great deal. Teacher D shared that a collaborative approach works best. She also expressed that as a teacher she had to be willing to accept feedback from others and not view the input as judgment. Teacher D portrayed an openness between herself and the coach as the most effective characteristic a coach could possess.

When discussing the most rewarding aspects of her role as a special education teacher, Teacher D described situations where she had extensively planned for activities. She explained that the organization of large classroom projects that come together with a good end result bring her great satisfaction. Teacher D explained that student behavior and workload were the greatest challenges she faced as a special educator, and she shared that behavior management was her greatest area of need.

Coach D was a 40 year old female at the time of the study. She had ten years of coaching experience and eight years of teaching experience as a special educator. Her time as a special educator was with students with emotional disabilities who attended a separate school without access to general education peers and in a high school for students with learning disabilities.

In her role as a coach, Coach D provided support to students and teachers at all grade levels from preschool to high school. Her primary responsibilities were described as consultation, assistance with data collection, assistance with functional behavior assessments and behavior intervention plans, support for classroom management strategies, refinement of instructional strategies, and any other additional support teachers would request.

Coach D characterized her approach as collaborative in nature and most effective when a teacher was seeking assistance rather than assistance being prescribed to them by administration. She described establishing rapport as the first step in a collaborative relationship and willingness to listen and problem solve as a team by working shoulder to shoulder. The idea of a coach as an expert was described as troubling for Coach D, as she did not want to be viewed as a hero that would come in and make a difficult situation better in an instant but, rather, someone with experience and knowledge who could assist to problem solve a situation. Coach D made a connection that although basis of knowledge is critical as a coach, she had experienced situations when she could not find a solution and felt it was strength that a coach could also ask for additional help. She felt her responsibility was to provide easy to use resources in the classroom, and showing the teacher how to use data for decision making in instruction and behavior.

When discussing the most enjoyable aspects of coaching, Coach D agreed with Teacher D, that seeing her work have an impact on children was rewarding. She also bridged that from the children to the teachers, by sharing how she found satisfaction with her positive impact on multiple teachers, who in turn made a difference for students.

Leaving the classroom and turning her coaching over to the responsibility of the teacher is something that Coach D deemed a challenge. She described her desire for more time in each coaching situation to “dig in deep” through role play and modeling in order to increase her effectiveness.

Pair E. Teacher E was a 59 year old female at the time of the study. Her experiences in education included nineteen years of teaching, and three years serving in an administrative capacity. Teacher E was in her first year as a special education classroom teacher while her previous experience had been as a general education teacher. During her previous experiences as a teacher, she worked without a coach to provide support to her. During the school year of this study, Teacher E had just begun consulting with a coach. Teacher E had an elementary classroom that consisted of 8 students with autism and had two paraprofessionals.

Guidance with setting up a classroom, availability to answer questions, and clear communication were expectations that Teacher E mentioned she would expect in her interactions with a coach. The most important characteristic that Teacher E desired in a coach was someone who could direct her in what she needed to do to get her job done and to assist her students by providing her with the resources she needed. She struggled with time management to engage with her coach and still have the time to dedicate to instruction.

Teacher E reported that watching the children grow in their communication skills was a rewarding aspect of her role as a special educator. Seeing sudden growth in a

student in an area that has been stagnant made her feel she was making a difference with her students.

Coach E was a 57 year old female at the time of the study. She had served in a coaching role for twenty years in both an administrative and specialist capacity. In her role as a coach, Coach E described significant efforts into active listening and encouragement of teachers, giving descriptive feedback, provision of behavior strategies, and help in setting up classrooms, and building relationships with students.

Making connections was a responsibility that Coach E felt was critical for the teachers that she supported, especially when they were beginning teachers or teachers new to the division in which she worked. The approach that Coach E described that she utilized in her consultation with teachers was a mixture of support and accountability. The most important characteristic that Coach E stated she should possess in her role as a coach was being non-judgmental. She stated she had been able to accomplish this by determining the communication style of the teachers she was coaching and sliding her own style to meet their style. Through building rapport with teachers, and meeting them at their communication style, Coach E had seen teachers become more receptive to her recommendations and more likely to learn from the coaching experience. In addition, she saw that if she was willing to “get her hands dirty” by being in the classroom and showing the teacher the strategies in person, they were more likely to utilize her input.

One aspect that Coach E reported as a rewarding aspect of her role as a coach was seeing a person that she had supported go on to accept a leadership position of his or her own. She described the joy seeing those who she had coached to go on to coach other

teachers. She disclosed the struggle of working with teachers who did not want her help as a frustration, as well as managing to hide her frustration while maintaining ongoing relationships. She envisioned her main role as a coach was to provide immediate feedback and encourage teachers to find the smallest steps they had made towards success in order to meet the goal of supporting students.

Pair F. Teacher F was a 42 year old female at the time of the study. She was in her first year of teaching as a special educator. She had experiences during her first year working with a coach who supported her classroom, as well as a mentor from her building assigned to support her during her first year of teaching. Teacher F had an elementary classroom that consisted of 8 students with multiple disabilities and the support of two paraprofessionals.

The approach that Teacher F wanted to see a coach use was a hands-on approach. She described her learning style was most effective when she was able to practice skills in the classroom. Two characteristics that Teacher F saw as essential for a coach were patience and a willingness to repeat instruction until she was able to understand. She wanted a coach that would assist her with differentiation of instruction concerning the behavioral needs of the students in her classroom.

Teacher F conveyed that the greatest satisfaction in her role as a special educator was making even a small difference with her students. Especially with the students she serviced who were working on functional academics. She found the paperwork as the most challenging aspect of her position, and the need for time to attend professional development.

Coach F was a 49 year old female at the time of the study. She was in her second year in her role as a coach and had fifteen previous years of teaching experience as a general and special educator. In her role as a coach at the time of this study, Coach F supported general and special education teachers and administrators. Coach F described her responsibilities as providing strategies, modeling, assistance with collecting and analyzing data, and engaging in professional development.

Clear communication and commitment to coaching was the approach that Coach F saw as an effective coaching method. Through constant contact and problem solving with teachers, Coach F saw her coaching as ensuring the greatest benefit. She also described coaching as imparting the greatest value when a teacher was open to change and willing to be flexible.

Coach F found satisfaction in her role as a coach through sharing her knowledge with teachers who, in turn, had a positive impact on students. She felt her role as a coach was in making a broader impact than when she was a classroom teacher, because she could affect change within an entire division rather than just her classroom. A need for time to reach all the schools and teachers she wanted to reach was something that Coach F described as a frustration.

Categories and Themes

Open coding was used to define categories and themes by identifying connections between the responses of the teachers and coaches, and examined the characteristics noted that described effective coaching. The categories that emerged from the focus group dyad interviews were active listening, collaboration, problem solving, hands-on

modeling, flexibility and unobtrusiveness (see Table 4). These categories were consistently present throughout the interviews with the teacher and coach as critical qualities for a coach to possess in order to demonstrate effectiveness.

Table 4

Open Coding in Categories of Effective Coaching from Focus Group Dyad Interviews

Categories	Coded Responses
Active Listening	<ul style="list-style-type: none"> -Good listening skills -Engaging in open communication -Have the give and take of communication -Read the other person and shift my communication style to match theirs -My role is always to listen and understand first -Obviously communication is big -Hear me out before you tell me to do something and walk away -I am available as a coach through email or by phone at all times so that teachers know I want to listen to them -I need by coach to have patience and be willing to listen
Collaboration	<ul style="list-style-type: none"> -Make everyone feel a part of the team -Know you are working together as a team -Working together to build relationship and rapport -Willingness to work on things together -Be open to suggestions - Not judgmental about the teacher that you are coaching -Having a sense of humor and humility and not thinking that you know everything is an important trait -Let's start out by having a laugh together

-Let's create that communication first and realize it's not about whose better than who, we are both the same

-You can't build a relationship if you are getting defensive, that is why it must be a must be a teamwork approach

-We need to set goals together

-There has to be give and take

Problem Solving

-Knowing you don't have all the right answers yourself

-Having back and forth

-Knowing it will take work and that an expert cannot make it all better instantly

-The coach should have a good basis of knowledge but also should be able to admit when they don't know something and need additional support

-Giving and getting constructive feedback

-Looking for the small steps of success when feeling overwhelmed

-Conducting a needs assessment to ensure you are addressing existing problems

-There has to be the back and forth to understand when something is not working and coming up with multiple solutions to solve the issue

-We can learn from the experience and see how we need to tweak a part of it to make it work

-I may just be the facilitator that helps the teacher to find the answer they already knew

-We have to be honest and admit when we have made a mistake or don't understand and then figure it out together

Hands-on Modeling

-Showing how to do what you are advising as a coach

-Working shoulder to shoulder

-Being side by side and doing whatever it takes through

feedback to ensure they understand

-Getting in the trenches with the teacher

-Provide resources and strategies through demonstration

	<ul style="list-style-type: none"> - Willing to get hands dirty to show teacher they know you are giving credible suggestions -Be willing to get down on the floor and work together -I learn a lot better by doing -I tend to want to model and let that person observe, and then watch them do it
Flexibility	<ul style="list-style-type: none"> -Being ready to change -Going out of your comfort zone -Open to trying new things -Available and willing to make time for each other -We have to see the big picture -Don't give up and don't stop, you have to be willing to keep an open mind and keep going
Unobtrusiveness	<ul style="list-style-type: none"> -Be an extra set of eyes -Teacher seeking assistance without it being thrust upon them -Determining times for observations that do not disrupt the students -Scheduling times for observations at an appropriate time for students -As a coach you do not want to be an additional burden, you want to be there to help

The categories lead to several key concepts that emerged from the data analysis. The first concept thread throughout the dyads was that a majority of the teachers and coaches they craved a show me instead of tell me mentality. Coaches perceived that they were most effective when they modeled for teachers, and teachers felt that the coaches had greater credibility when they were willing to roll up their sleeves and participate in the strategies they were suggesting to the teachers. Coach D described this concept as:

“I think the coaching approach has to be collaborative and open. Establishing that rapport and working to problem solve together. Number one I am not an expert, and I think the expert model just does not work. So the more you can work shoulder to shoulder with someone and get into the trenches and model, and kind of have a back and forth I think is the best way.”

Teacher F agreed a hands-on approach was the best approach for her when a coach taught her a new strategy:

“For me it would be hands on. I learn a lot better by doing.”

Another concept that emerged with both the coaches and the teachers was the need to be listened to, and to have the back and forth discussion and problem solving in order to have an effective coaching relationship. Coach D captured this by saying:

“There has to be two main things....establish and build rapport and listening. If you are not willing to listen to what someone has to say and come in with preconceived notions, you may be missing what is really going on. ”

Several participants mentioned the idea that communication and listening had to be reciprocal and not simply a demand from the coach to the teacher without follow through. Coach C shared her previous teacher experiences as an example.

“I think the most important thing is to listen first and really understand what the teacher is saying. What are the needs she is having and the experiences she is having? Because in my experiences as a teacher when people would come in and coach they would just give me a band aid approach. I would describe this whole problem and they would say well just do this, and I always hated that as a teacher. So I try to have a good conversation so I truly understand what the need of the teacher is. Obviously the communication piece is big. “

Many of the participants mentioned the importance of listening and building rapport. Teacher C spoke about the importance of that theme between the teacher and coach:

“Let’s create a relationship first. Let’s get to the place where we feel comfortable to laugh together and realize that we are the same. No one is better than the other. You know we are in this together to help the children.”

The data of the focus group interviews and further examination of the categories and ideas that emerged from the interviews lead a framework of effective coaching that can be found in Figure 1. The two themes the data pointed to were that both coaches and teachers wanted a “show me don’t tell me” approach, and that it was all about the

“relationship, relationship, relationship.” Teachers and coaches shared a desire for communication and collaboration repeatedly throughout all interviews.



Figure 2

Categories and Themes of Effective Coaching

Part 2: Single-Subject Analysis of Modeling versus Non-modeling

Results

The frequency of use of the token system during baseline and intervention without modeling for Group One is presented in Figure 2. The frequency of use during baseline and intervention with hands-on modeling and feedback for Group Two is presented in Figure 3. The closed squares represent the baseline condition in the first phase, the number of token boards that were filled following non-modeling and modeling in the second phase, and the two week maintenance probe in the third phase.

Results indicate a clear difference between the teachers who had modeling and feedback versus those who did not. Teachers A, B and C all received the intervention without modeling, did not use the token system during baseline, and used it with a very low frequency following the intervention. Teacher A did not use the token system at baseline, and following the intervention used it at a low rate ($M= 0.33$) per session with little variability. Teacher B also did not use the token system at baseline and following the intervention used it at a low rate ($M= 0.60$) with little variability. Teacher C did not use the token system at baseline, and used it at the highest rate per session of the three teachers in this group ($M= 1.50$) following coaching. A maintenance probe two weeks following the intervention showed that a zero rate of the use of the token system strategy for all three participants who received instruction on the use of the token strategy without modeling.

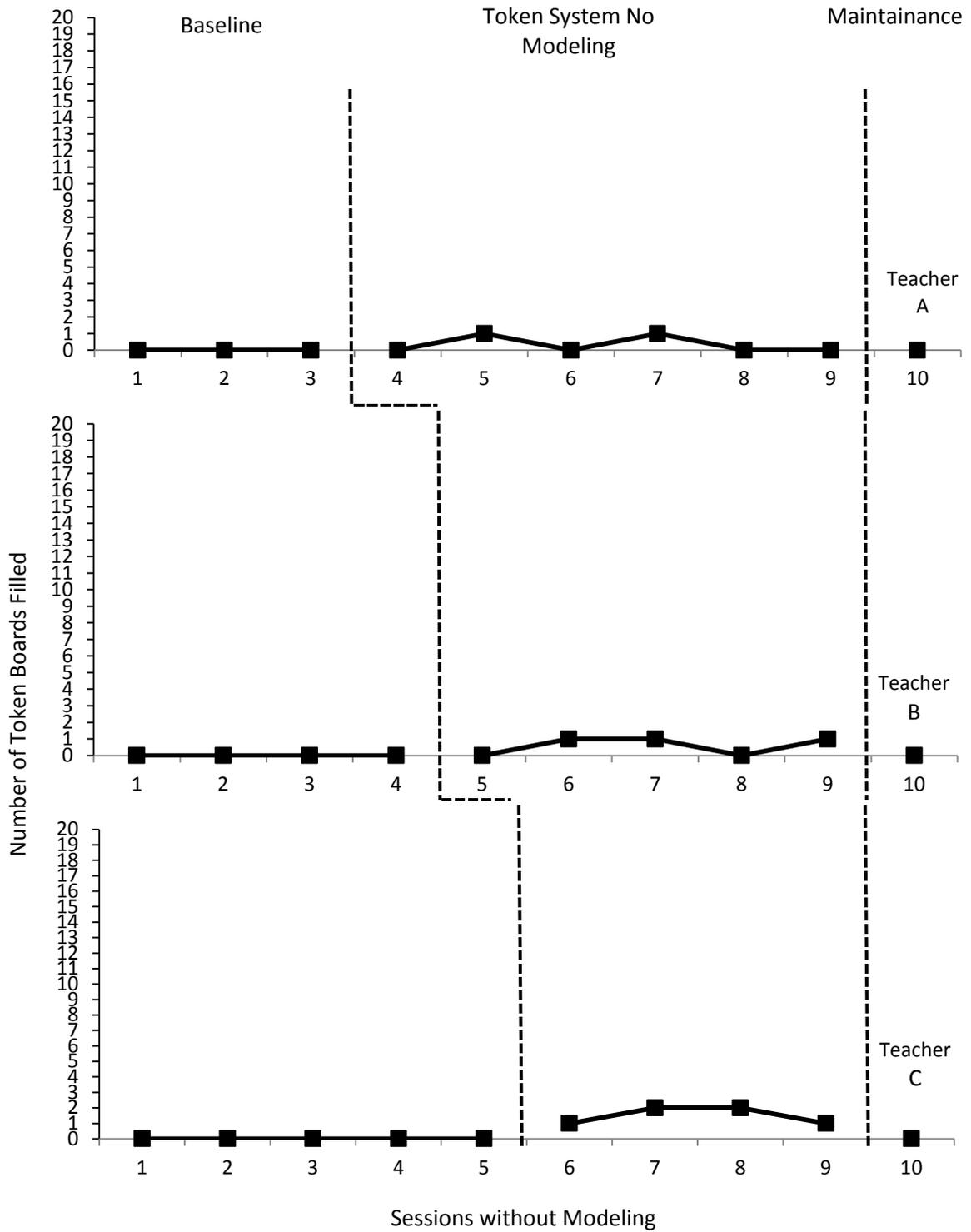


Figure 3

Token System without Modeling

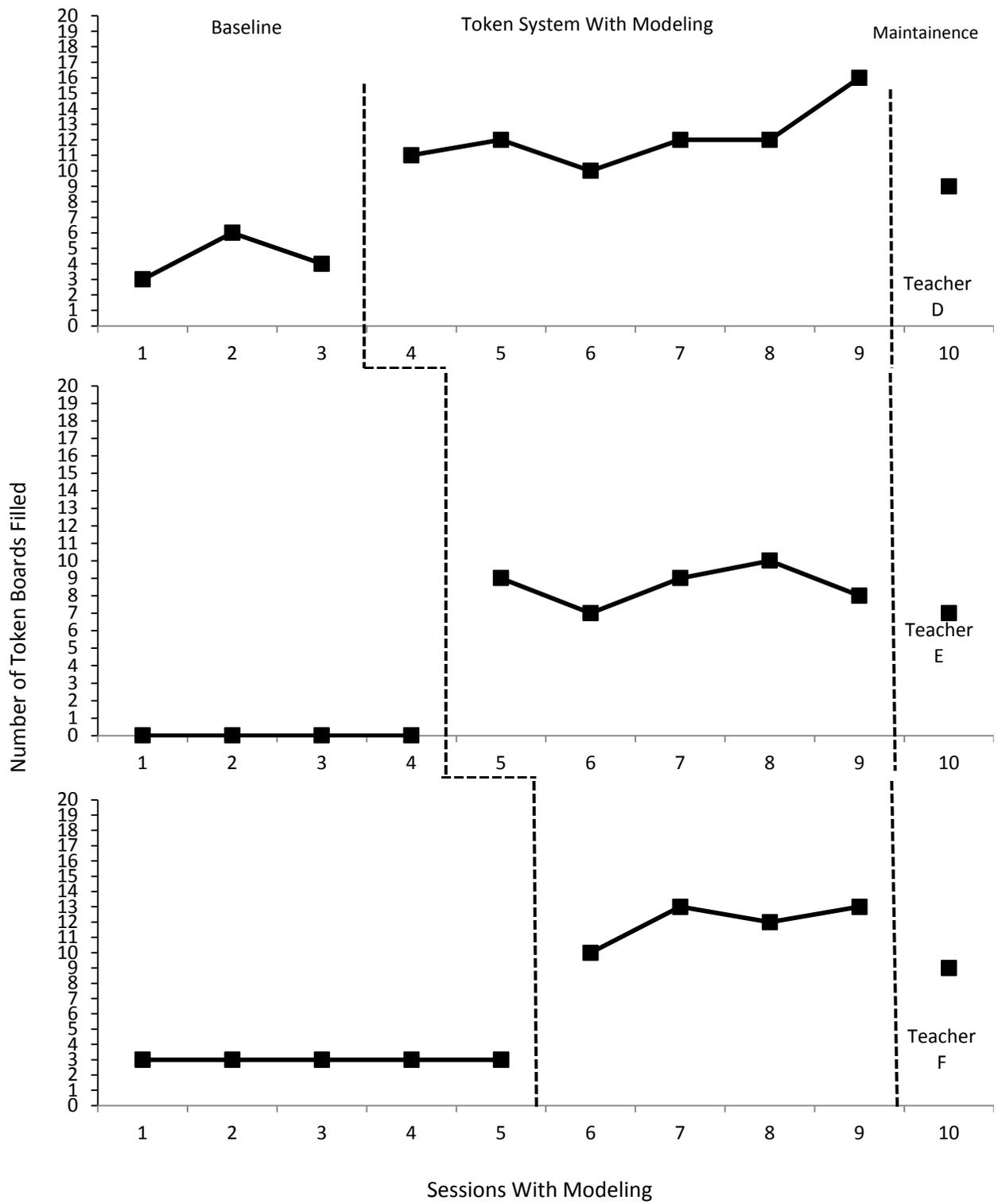


Figure 4

Token System with Modeling

In contrast to the first group, the second group, which included teachers D, E, and F, had higher rates of the use of the token system. This group received the instruction on the use of the token strategy with hands-on modeling and the differences in the data are striking.

Teacher D had a slightly variable baseline (Range of 3-6 per session), and following coaching with the use of hands-on modeling there was a steady increase in trend ($M= 12.2$) in the number of times Teacher D used the strategy. At the two week maintenance probe, Teacher D used the strategy at a high rate ($N= 9$) during the session.

Teacher E demonstrated zero occurrence of the token strategy in the baseline phase. The introduction of the coaching intervention with modeling resulted in an immediate change in level (Range 7-10 per session) and implementation of the token strategy ($M= 8.6$); however, the trend was flat in the phase following the intervention. At the two week maintenance probe, Teacher D continued to use the strategy at a rate significantly higher than in baseline ($N= 7$).

Teacher F demonstrated no variability in the baseline phase with a constant of three occurrences per session. There was an increase in level and trend following the intervention using coaching and modeling (Range 10-13) with little variability, and an immediate increase in implementation of the strategy ($M= 12$). At the two week maintenance probe, Teacher E continued to use the strategy at a rate notably higher than in baseline ($N= 9$).

Percentage of Nonoverlapping Data

Percent of non-overlapping data (PND) is the calculation of the proportion of data observed in the treatment phase that does not overlap with the data observed in the baseline phase (Gast, 2010; Scruggs & Mastropieri, 2012; Scruggs, Mastropieri & Castro, 1987). This method of a quantitative synthesis of single-subject data provides valid summaries of relevant research in various areas, in particular for addressing the effects of the intervention.

PND was calculated by the number of data points following the treatment phase that did not overlap with the baseline's lowest point, and was divided by the total number of data points in the first treatment phase and multiplied by 100. The PND for Group One included Teacher A at 33%, Teacher B at 60%, and Teacher C at 100%. The PND for Group Two for Teacher D, E and F were all 100%. This indicates that the intervention in a strategy with the use of modeling and feedback is a highly consistent approach.

Interobserver Agreement

Tests for interobserver agreement were conducted for 30% of the sessions and were completed by this researcher. An agreement was calculated for each instance of a filled token board by the teacher and an accompanying frequency mark. The percentage of interobserver agreement was calculated by dividing the agreements by the total number of agreements and disagreements and multiplying by 100. Across all participants interobserver agreement was calculated at 100%.

Social Validity

Social validity was addressed through the third part of this study. Through follow up interviews with the participants they shared firsthand experience with topic at hand and the importance of feedback and modeling for teachers. The data collected in the follow up interviews speaks to the social validity on the topic of coaching, as demonstrated through the perception of each coaches and teachers in the following section. Although the visual representation in Figure 4 demonstrates a behavior change, the follow up data is another source of the social validity of the behavior change as it speaks to the participant's perceptions of coaching. In particular, it addresses how the intervention changed teacher behavior in regards to those participants who received hands-on modeling and those who did not.

Part 3: Follow-Up Interviews and Reflections by Coaches and Special Education

Teachers

Results for Group One- Strategy with No Modeling or Feedback

Pair A. Teacher A reported difficulty with implementing the strategy in her classroom. She described that there was “too much going on in her classroom” to have the time to implement the strategy. She shared that it “would have been good if she could have implemented it” for the students she had selected if she could have made the time. Teacher A did report that the coach “explained how to do it perfectly,” but, perhaps, if the coach had “worked with kids a couple of times and observed the kids a couple of times and then come in to help me,” she felt the strategy would have been more effective. “I didn’t feel comfortable using it myself so that is why I could not use it as much as I wanted to with the kids.” Coach A agreed that coming in to actually see and work with the students “would have made her coaching more effective.”

Pair B. Teacher B did not feel that the coaching was effective in increasing her use of the token reinforcement system. “It sounded like a good plan when he described it for me, but when I tried to implement it in the classroom I could not use it effectively.” She described the way in which the coaching would have been the most effective; “after he explained it to me to come and sit down and actually work with the students to show me how it could have been implemented.” Teacher B also stated “not only modeling it but to observe myself doing the strategy with the students” would have improved her ability to use it. As coach C had mentioned in the focus group dyads, it is the

responsibility of the coach to ensure the teacher has understood the instruction through clear description.

Pair C. Both the coach and teacher in Pair C felt that the instruction in the strategy itself was not sufficient for the teacher to carry it out. In the follow up interview together they discussed how much different the intervention would have been if there had been an opportunity for the Coach to model the strategy with a student. “When I used the token board it did decrease the behaviors, I could have used the coach to observe and see how often I should have delivered the tokens, and to have an extra set of eyes to see what I should reinforce may have made a big difference in how often I ended up using it.”

There was a theme throughout the follow up interviews that both the teachers and coaches desired that collaborative, back and forth, with the coach being the “sounding board,” in order for the strategy to be effective.

Results for Group Two- Strategy with Modeling and Feedback

Pair D. During the follow-up interview, Teacher D described the ways in which the token system had worked for the two students that she had selected to participate in the strategy. The follow-up interview, interestingly enough, appeared to evolve into another coaching session. The teacher was also excited by the progress that the two students had made with the strategy Coach D had modeled for her that their questions regarding what worked and what could be modified. Something both the teacher and coach in Pair D thought would have caused the intervention to be even more effective would have been to have multiple coaching sessions.

Pair E. Teacher E shared in her follow-up interview that the feedback from the Coach was the most important piece of her experience in this study. Coach E agreed and described how continual feedback during the coaching session was critical. One of the students who participated was one that Teacher E felt experienced the greatest benefit from the strategy, and she described how she had seen significant changes following the coaching intervention.

Pair F. In the follow up interview, Teacher F shared ways in which the token system had worked for the students she had selected to change their behaviors. Specifically, she addressed how the strategy had worked for one student who had particularly challenging behaviors. She attributed the change in behavior to the system and the modeling that Coach F had provided for her and, similar to Pair D, she requested additional coaching to address the behavior of other students in her classroom. Teacher F described it this way; “it really opened my eyes, to talk about it and then actually see Coach F doing it. To see her find a way to reward her even though she was in the midst of throwing a fit. I realized I was rewarding her in an incorrect way and it shifted my focus.”

The differences in the follow-up interviews between Group One, who did not have modeling and feedback, and Group Two, who did receive modeling and feedback are clear. This researcher got a strong sense from all three teacher participants in Group One that there was a certain level of frustration that they understood the strategy the coach had explained for them and that it could be effective, but that they did not know

how to fully put it in practice with the type of intervention the coach had provided. It was as if they had been given a resource they wanted to use, but did not have all the tools to use it.

In contrast, the teachers in Group Two were excited, ready to continue the coaching experience, and had already examined ways in which to do so. All three teachers saw a change in their student's behavior as a result of the strategy and wanted further feedback from their coach. As Coach D described it:

“That is the way a coaching experience should work, the key is for the coach to actually be in with the kids. To watch and observe, spend time watching the students and the behaviors they exhibit, and then working together as a coach and teacher, that is where you are going to have success.”

CHAPTER V: CONCLUSIONS

The purpose of this chapter is to examine the results of the three-part experiment, and to describe the limitations of the findings. In addition, possible future research in relationship to the findings in the use of effective coaching will be discussed.

Summary of Findings

The purpose of this study was to measure the impact of coaching on teaching behavior. Using focus group dyads, the first research question sought to determine the ways in which teachers utilize a person serving in a coaching capacity in their classroom. While all six of the teachers who participated shared they had interacted with at least one person who served as a coach, it was described as an “interaction,” “observation,” “consultation,” or “discussion.” There was little reference to modeling or hands on experience in the description of coaching that had taken place for either the teachers or the coaches. It was clear that all of the participants had a perception of what would make a coaching experience effective. Teachers wanted a coach who would not tell them what they needed to do, but show them. And all coaches and teachers thought that the relationship between the coach and the teacher was the critical piece in making a coaching experience effective.

The second research question used single-subject methodology to establish if a coach who models a strategy would have a different effect on teacher behavior compared to a coach who does not model. The teachers in Group Two who received coaching with modeling consistently carried out the token system strategy at a higher rate than Group

One who received coaching without modeling. In addition, a two week probe demonstrated the effects of coaching were maintained at a higher rate for the teachers who received modeling than the teachers who did not.

The last research question this study addressed was how the special education teachers and coaches perceived modeling versus not modeling as a practice in the classroom. Through the follow up interviews it was apparent that Group One, which did not receive modeling, did not perceive they had received the level of support that was required to adequately carry out the strategy. Conversely, those teachers who had received modeling perceived that the token system had been effective for their students and maintained their use, even varying how they used them with different students in their classroom.

General Discussion

The findings of the combination of the three parts of this study indicate the need for teachers to have demonstration, modeling, and feedback when receiving support from a person working in a coaching capacity. This is consistent with the previous literature which points to the need for a combination of approaches in order to improve teacher performance (Alvaro et. al., 2001; Balcazar et. al, 1986; Reid & Parsons, 1996; Sigafos, Roberts, Couzens, & Caycho, 1992; Simonsen, MacSuga, Fallon, Sugai, 2013).

It was clear through all three parts of the study for Group One that the teachers felt the strategy could have been more effective if there had been greater involvement on the part of the coach. Simply receiving instruction from the coach without any other interactive approach showed limited success in the teacher implementing what the coach

had instructed. This research demonstrates that it is not at all about the strategy itself, in this case the token system, but the effectiveness of the coach in providing the teacher with an interactive approach that will carry over into practice in the classroom.

The differences between the data and the follow-up interviews between Group One and Group Two were striking. Group Two teachers consistently carried out the strategy more often, and had very positive perceptions and feedback following Part Two of the study. Two of the teachers indicated they had transferred the strategy from the two students they had used for the intervention to other students in the classroom who could also benefit from token systems. Another teacher from Group Two indicated that following the intervention, she was altering the way that the token system had been used by varying the rate and level of reinforcement for other students. Of utmost importance is that the data showed two weeks following the intervention, although slightly decreased, the teachers had maintained the use of the strategy. This is critical as it speaks to the previous research that staff performance improvements brought about through training can be difficult to maintain over time (Smith, Parker, Taubman, & Lovaas, 1992; Sanetti, Fallon, & Collier-Meek, 2012).

It is important to recognize that coaching in each instance needs to be operationally defined and skill focused. Without the required ingredients of coaching in relationship to the desired outcomes for students, the effectiveness and replication of the effects will be limited.

Limitations

Multiple baseline design across participants is a practical choice for applied settings such as a classroom because, under similar environmental conditions, it demonstrates the generality of the intervention. In order to demonstrate that the target behavior of the teacher using the token system was functionally independent, it would have been beneficial to have scheduled a greater number of sessions.

It is important to note that the baseline in the modeling group was generally at a slightly higher rate during baseline. In addition, Teacher D demonstrated variability in baseline, and a slightly increasing trend prior to the intervention, although the PND was at 100%. In order to demonstrate a true functional relationship it would be beneficial if this study was replicated. In addition, this research took place with teachers of students who were all in elementary school and of elementary age. To further examine the effects of coaching with hands-on modeling this study should also be replicated in the middle and high school as these settings may have a different impact as an element of this research.

Although the teachers who received hands-on modeling stated they perceived the coaching in the use of the token reinforcement system made a difference, one cannot be sure this can be attributed to the change in student behavior. The purpose of this research was to investigate the change in teacher behavior. It is only through teacher perception of efficacy that a clear relationship is evidenced.

If subsequent investigations were able to take place with additional teachers who were similar to those in this investigation, replication across participants would increase

the generality of these findings. It is difficult to distinguish the teachers and coaches and their previous learning history, and how that may have impacted this current research, without further investigation. In the words of Teacher E, “Coaching cannot be a one shot deal to be effective.”

Future Research

While this study provided one version of coaching in a special education classroom, all three of the participants in Group Two who had modeling stated that if they had multiple sessions of coaching that the intervention may have had an even greater effect. Therefore, future research could utilize these same procedures with multiple coaching sessions or longer coaching sessions. In addition, in order to strengthen the design of Part Two there could be a return to baseline several times in between the coaching intervention using modeling and feedback, or an alternating treatment design with multiple versions of coaching.

In addition to an increase in sessions, there is potential in researching the effects of modeling and coaching and the maintenance of the effects over time if the sessions are completed at a high rate in a repetitive manner. Sanetti, Fallon, and Collier-Meek (2013) investigated the use of performance feedback using internal consultants rather than researchers to ensure maintenance for performance over time. The same may need to be considered for modeling and coaching in combination. Using internal consultants allows for continued coaching that researchers do not typically engage in, and some teachers may require differing length and intensity of sessions. Internal consultants could also consist of teacher to teacher consultation, more than a mentor, but rather an experienced

teacher to act as a coach and provide performance feedback (Thurlings, Vermeulen, Bastiaens, & Stijnen, 2012). Given the concerns with time management and available resources, recent literature has started to point to the regular use of email for feedback (Artman-Meeker & Hemmeter), which could also be further examined to increase the rate and regularity of sessions.

One aspect of this research that warrants further investigation is the use of self-monitoring by teachers to change their own behavior. The teachers in this investigation collected data on their use of the token system, however despite this the teachers who did not receive modeling in addition to the coaching did not increase their use of the token system. One would expect that the teachers may have recognized they were not using the system as the coach had instructed and would increase the rate with which they implemented the token strategy. This may speak to the significance of modeling in addition to coaching, however other factors may be relevant which require further examination.

It is clear that the elements of effective coaching are essentially finding the correct ingredients for success. In one instance a coach may see a change in teacher behavior, and then use the same exact techniques with another teacher and see limited progress. As the focus groups in this current study demonstrated, relationship and chemistry between the teacher and coach clearly play a role in the success of the partnership.

Implications

The implications of this research for practice point to the importance to effective teacher preparation. Many of the teachers demonstrated they had limited experience with reinforcement systems which should be a hallmark in any teacher preparation coursework. This could be attributed to the material being taught in teacher preparation programs, or speak to the need of an increase in the teacher supervisory period. As Reid (2010) suggested; many of the issues with effective training are a result of staff being expected to carry out a job when they have not been trained on how to effectively perform its duties.

One of the important variables to affect the success of personnel is the behavior of the supervisor, coach or change agent and the quality of the supervision provided (Green, Rollyson, Passante, & Reid, 2002). Coaching is clearly a role that requires skill and training, as this research shows the relationship between the effectiveness of the coach and the success of the teacher are connected. The implication of this is that the training that the coach requires in order to be effective should also be examined.

Summary

In the ever changing field of education, teachers face various challenges and victories in their classroom every day. Commonly the biggest challenge they encounter is difficulty with student behavior. As teachers and divisions rely on resources outside of the classroom to aid with problem solving in this type of situation, as this research shows the use of experienced staff as coaches is a viable method. However, careful

consideration and planning with attention to relationship and a hands-on approach, are more likely to lead to success for all involved.

Appendix A

Focus Group Questions for Teacher and Coach Dyads

- 1) What is your age?
- 2) How many years have you been a coach or teacher?
- 3) How many years of prior teaching experience do you have as a coach or teacher?
- 4) How many years have you worked with a coach as part of your position as a teacher?
- 5) What type of different teaching experiences have you had?
- 6) What type of teachers and personnel do you support as part of your position?
- 7) What resources do you provide as a coach?
- 8) What resources have you been provided with from your current or previous coaches?
- 8) What type of approach do you think works best as a coach?
- 9) What type of approach do you think works best from a coach?

- 10) What approach do you prefer as a coach or teacher?
- 11) What characteristics do you feel are most important for you to possess in your role as a coach?
- 12) What characteristics do you feel are most important for your coach to possess?
- 13) What is your favorite part of your position as a coach or teacher?
- 14) What is the most challenging part of your position as a coach or working with a coach?
- 15) As a teacher what do you think the coaches responsibilities are that are the most valuable?
- 16) What part of your responsibilities as a coach do you see as the most valuable for the teachers and various staff members you work with?

Appendix B

Focus Group Dyads Discussion Agenda

- 1) Greeting and introductions
- 2) Review consent
- 3) Purpose of focus group dyad
 - Opportunity to provide input about the roles and responsibilities of coaches and teachers who work together in special education classrooms.
- 4) Role of moderator
- 5) Review confidentiality of responses
- 6) Individual opinions, no right or wrong answers
- 7) Question and answer session
- 8) Closing comments and thank you for participation

Appendix C

Steps for Implementation of a Token System

Module: Reinforcement

Steps for Implementation: Token Economy Programs

Neitzel, J. (2009). *Steps for implementation: Token economy programs*. Chapel Hill, NC: The National Professional Development Center on Autism Spectrum Disorders, Frank Porter Graham Child Development Institute, The University of North Carolina.

Step 1. Identifying the Target Skill/Behavior

In Step 1, teachers/practitioners identify a target skill/behavior for a learner with ASD that they would like to increase.

1. Teachers/practitioners define the target skill/behavior in observable and measurable terms.

The following are examples of target skills/behaviors that could be addressed using token economy programs.

Example: Sarah will raise her hand during English class to request/answer a question four out of five times for at least three days.

Describing the in measurable and observable terms allows teachers and other practitioners to collect accurate and reliable baseline data, distribute tokens when the learner uses the target skill/behavior correctly, and ensures that all staff members know what the target skill/behavior looks like so that tokens can be provided consistently across classes and activities. Furthermore, a clearly described target skill/behavior helps learners understand exactly what behavior is expected of them in certain settings and situations.

Step 2. Collecting Baseline Data

Once the target skill/behavior is identified, teachers/practitioners collect baseline data to determine how often the learner with ASD is currently using the target skill/behavior.

1. Teachers/practitioners measure a learner's use of the target skill/behavior before implementing a token economy program by collecting one of the following:
 - a. *frequency data*. Frequency data document how often a learner engages in a particular behavior. Two methods are used to collect frequency data: time sampling and event sampling. With *time sampling*, data on a particular behavior are collected after a certain amount of time (e.g., every 5 minutes). If a learner is engaging in the behavior at that time, then teachers/practitioners record this on the data sheet. This sampling technique is best used to monitor high frequency behaviors such as drooling and staying seated during class. *Event sampling* is used to record every instance of the behavior and typically focuses on low frequency behaviors such as taking a bite of food, hitting, and using the toilet. Both sampling techniques are use

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to evaluate patterns of learners' behavior over a period of days or weeks. Tables 20 and 21 provide examples of both frequency data collection methods.

Table 20. Example of Time Sampling Data Collection Sheet

Date	T							Before, during, or after reinforcement
	9:00	9:05	9:10	9:15	9:20	9:25	Total	
7/26/08	X		X				2	Before
7/27/08	X	X					2	Before
7/28/08	X	X		X		X	4	Before
7/29/08		X	X	X		X	4	Before

Table 21. Example of Event Sampling Data Collection Sheet

Date	Takes toy from peer	Total	Before, during, or after reinforcement
7/26/08	X	1	Before
7/27/08	X	1	Before
7/28/08	X	1	Before
7/29/08	XXX	3	Before

- b. *duration data*. Duration data are used to record how long a learner engages in a particular behavior. For example, a teacher might collect data on how long a learner with ASD stays in his seat or how long a young child stays engaged in parallel play. Table 22 provides an example of a duration data collection sheet.

Table 22. Example of Duration Data Collection Sheet for Remaining in Seat

Date	Start time	End Time	Total minutes	Setting/activity	Before, during, or after reinforcement
7/26/0	9:00	9:01	1	Engli	Before
7/27/0	9:05	9:06	1	Math	Before
7/28/0	9:00	9:02	2	Scien	Before

7/29/08	9:10	9:12	2	Resource room	Before
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Baseline data give teachers/practitioners a starting point from which to evaluate whether the target skill/behavior increases as a result of a token economy program.

2. Teachers/practitioners collect baseline data for a minimum of four days before implementing a token economy program.
3. Teachers/practitioners collect baseline data in numerous settings and/or activities.

It often is useful to have more than one practitioner collect baseline data over the course of several days to compare findings. Also, by collecting data over the course of several days in multiple settings, teachers/practitioners can potentially recognize patterns of behavior. For example, does the learner use the target skill/behavior more often in one setting than another

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This kind of information helps teachers/practitioners identify activities or settings where a token economy program can be used to increase the target skill/behavior.

Step 3. Identifying Reinforcers

In Step 3, teachers/practitioners identify reinforcers for learners with ASD. Reinforcers are anything that increases the likelihood that the target skill/behavior will be used in the future. This is important because learning will not take place unless reinforcers are motivating to the learner with ASD. Teachers/practitioners should keep in mind that many of the reinforcers often used with typically developing students may not be motivating to learners with ASD (e.g., social praise, high fives). It is essential that teachers/practitioners identify reinforcers for each learner with ASD that are sufficiently motivating and lead to an increase in the target skill/behavior.

Potential reinforcers that can be used with a token economy program include the following:

- *Activity reinforcers* could include play activities, access to computer games, additional free time, and outings.
- *Tangible/edible reinforcers* include objects that a learner with ASD can acquire.
Examples include stickers, toys, magazines, pencils, candy, and popcorn.
- *Sensory reinforcers* often are motivating to learners with ASD. However, these types of reinforcers should be used only when (1) the teacher can control access to them; (2) the reinforcer is deemed acceptable and appropriate for the setting; and (3) no other reinforcer is as motivating to the learner with ASD. Examples include looking at a kaleidoscope, blowing bubbles, playing with a squishy ball, sitting in a rocking chair, or rubbing hand lotion on hands.

The following activities can be used to identify reinforcers for individual learners with ASD.

1. Teachers/practitioners consider the age of the learner with ASD.

It is particularly important to take into account the learner's age when identifying potential reinforcers. For example, it would probably not be appropriate for a sixth grader with ASD to earn a Thomas train when he acquires enough tokens. This kind of reinforcer might best be saved for times when the learner receives services in a resource room with other learners with ASD or disabilities.

2. Teachers/practitioners observe the learner in natural settings and identify activities, objects, and foods that the learner selects when allowed free choice.
3. Teachers/practitioners identify potential reinforcers by asking the learner what he/she would like to work for (if appropriate)

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4. Teachers/practitioners identify potential reinforcers by interviewing parents or other staff to identify reinforcers that have worked in the past.
5. Teachers/practitioners identify potential reinforcers by conducting a reinforcer

sampling. Reinforcer sampling helps teachers/practitioners identify activities and

materials that are

motivating to the learner and that might be used to teach new skills. This type of procedure usually takes about five minutes and involves the steps listed below.

- Sit in front of the learner and hold up two items and say to the learner,
 - "Pick one." Wait 10 seconds for the learner to indicate his/her choice in whatever manner is appropriate (e.g., reaching, pointing, verbalizing, using a switch or augmentative communication device).
 - Place the selected and non-selected objects in their appropriate containers (i.e., one to hold the learner's selections, one to hold the materials not selected).
 - Continue the first three steps until half the objects presented are chosen (Mason & Egel, 1995).
6. Teachers/practitioners complete a reinforcer checklist to identify potential reinforcers for a learner with ASD.

The reinforce checklist can be used with children and youth with ASD across the age range to identify their least and most desirable reinforcers.

Teachers/practitioners simply check "yes" or "no" next to a variety of reinforcers.

Results can then be used to create a reinforcer menu. The following table provides an example reinforcer sampling menu that could be used to identify reinforcers for individual learners with ASD.

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Table 23. Sample Reinforcer Menu Sampling

Example: Elementary Reinforcer Menu

Learner name:

Target skill/behavior:

Instructions: Ask individual learners to place a check (✓) next to at least eight items/activities they would like to earn. Read the list to non-readers and help them mark the items they select.

<input type="checkbox"/>	1. Bubbles	<input type="checkbox"/>	7. New comic book
<input type="checkbox"/>	2. Ice cream	<input type="checkbox"/>	8. Spider man pencils
<input type="checkbox"/>	3. Coloring book	<input type="checkbox"/>	9. Pizza for lunch
<input type="checkbox"/>	4. Extra computer time	<input type="checkbox"/>	10. Stickers
<input type="checkbox"/>	5. Squishy ball	<input type="checkbox"/>	11. Playdough
<input type="checkbox"/>	6. Lollipop	<input type="checkbox"/>	12. Bookmark with string

Step 4. Creating a Reinforcer Menu

1. Teachers/practitioners create a menu of possible reinforcers listed by name (if the learner with ASD can read) or by picture for an individual learner with ASD.

This task allows teachers/practitioners to organize potential reinforcers in an orderly manner. Potential reinforcers can be organized according to categories such as social reinforcers, activity reinforcers, and sensory reinforcers.

The following tables illustrate two different reinforcer menus that could be used with learners with ASD.

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Table 24. Example of Picture Reinforcer Menu

Table 25. Example of Written Reinforcer Menu

<p style="text-align: center;">If I earn 10 tokens, I would like:</p>	
	<p>Circle choice for this class</p>
•	<p>Ten minutes of extra play time on the computer</p>
•	<p>Extra recess time</p>
•	<p>New comic book</p>
•	<p>Jar of bubbles</p>
•	<p>Erase the chalkboard</p>

Adapted from Aspy and Grossman (2007)

Step 5. Establishing a Token Economy Program

In Step 5, teachers/practitioners identify the medium of exchange. That is, they determine what will serve as tokens for the program.

1. Teachers/practitioners identify tokens that are:
 - a. attractive,

- b. easy to carry, and
- c. easy to dispense.

Virtually anything that is visible and countable can be used as a token in this type of reinforcement program. Examples include poker chips, stickers, tally marks, pennies, marbles in a jar, pictures of the target skill/behavior on a Velcro board, and play money

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2. The identified token is age and developmentally appropriate for the learner with ASD.

It is particularly important to take into account the learner's age and developmental level when identifying tokens. For example, it might be more appropriate to use a checklist or play money with a higher functioning learner with ASD. On the other hand, a teacher might use a chart where learners place pictures of the target skill/behavior on Velcro pieces each time he uses the target skill/behavior with learners who do not yet understand the concept of money.

3. Teachers/practitioners set up a system for exchanging tokens that includes:
 - a. "a bank" to keep track of tokens earned and spent,
 - b. a time and place for purchasing reinforcers from the reinforcer menu, and
 - c. the monetary value of each item on the reinforcer menu.

It is often useful to create a "store" in an area of the classroom that contains the "bank," the reinforcer menu, and the desired items. For example, a teacher could set up an area in the back corner of the classroom where a poster-sized reinforcer menu is hanging on the wall and displays the "business hours" (e.g., when tokens can be exchanged for an item on the reinforcer menu). A teacher might decide that learners can exchange tokens daily, weekly, or as soon as the designated number of tokens has been acquired. Again, this should be based upon a learner's age and developmental level. It is often beneficial to provide learners with frequent opportunities to purchase reinforcers at the beginning of the program to establish a clear understanding of how a token economy program works and to maintain motivation.

A small table in this area also may display the desired items and/or pictures of potential outings that the learner with ASD wants to work for. The teacher might also include the "price" next to each item on the reinforcer menu. The token value of each reinforcer should be based upon its monetary value or demand. For example, if the reinforcer is expensive (e.g., new computer game) or highly attractive (e.g., trip to pizza shop), the token value should be higher. When first setting up the program, it is important to balance the learner's demand for the item with his/her ability to acquire the skill quickly and efficiently. For instance, it would be wise to initially include a number of items on the reinforcer menu that can be easily acquired based upon the learner's current skills. As learners gain mastery of the target skill/behavior, more

expensive and highly attractive items that might take some time to acquire can be added to the reinforcer menu.

Step 6. Implementing a Token Economy Program

1. Teachers/practitioners clearly describe to learners with ASD:
 - a. the target skill/behavior,
 - b. how the token economy program works, and
 - c. how many tokens are required before receiving an item from the reinforcer menu.

Teachers/practitioners clearly describe the behavior to learners with ASD in simple terms so that they know what is expected of them. Learners also must be told when and where the token

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economy program will be in effect. For instance, will it be used only in English class and the resource room? Or will it be used in all settings across the day (for learners who receive services in inclusive programs)?

2. Teachers/practitioners display the rules for earning and exchanging tokens.

This posting should include a clear description of the target skill/behavior, rules for appropriate behavior, and how tokens can be earned. Table 26 offers an example of a rules poster.

Table 26. Example of Rules Poster

Classroom Rules

1. I will stay seated in my chair during English class.
2. I will not talk while the teacher is talking.
3. When the timer rings, I will get a chip.

It also might be necessary to engage in a role play with learners with ASD so that they more fully understand what is expected of them by going over the rules and acting out the sequence of engaging in the target skill/behavior, getting a token, and choosing an item from the reinforcer menu.

3. When first starting the token economy program, teachers/practitioners immediately provide a token to the learner with ASD each time the target skill/behavior is displayed.

Initially, teachers/practitioners use a continuous schedule of reinforcement in which each and every instance of the target skill/behavior is immediately rewarded with a token. This helps the learner with ASD establish a relationship between using the target skill/behavior and receiving a token.

4. Teachers/practitioners describe the target skill/behavior after the learner uses it correctly.

Example: A teacher might say, “You stayed in your seat for five minutes. Now you can get a token.”

5. Teachers/practitioners pair giving the token to the learner with ASD with social reinforcement (e.g., praise, teacher attention).

Because many learners with ASD have not yet learned the value of social reinforcers, teachers/practitioners must teach them to like these types of reinforcers by initially pairing a

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social reinforcer with the token. As learners with ASD become more motivated by social reinforcers, teachers/practitioners fade the use of the tokens.

6. Teachers/practitioners allow the learner with ASD to select a desired object, activity, or food from the reinforcer menu when the designated number of tokens has been acquired.

Learners also can be given a “my choice” option on the reinforcer menu in which they are able to engage in desired activities after using the target skill/behavior. This is particularly useful in instances in which learners often select a reinforcer before the activity, but change their minds after the activity is complete. Including this option on the reinforcer menu may combat potential problems that might arise in these situations.

7. Teachers/practitioners make adjustments to a learner’s reinforcer menu to maintain motivation.

To maintain a learner’s interest and motivation, teachers/practitioners periodically adjust prices and rotate items on the reinforcer menu to reflect a learner’s acquisition of the target skill/behavior as well as demand for a particular item. For example, a learner might become less motivated by a lower priced item because he is able to gain access to it easily as he becomes more proficient at using the target skill/behavior. Therefore, a teacher might include some additional lower priced items or increase the price of all of the items so that the learner stays motivated to acquire some of the higher priced items.

8. Teachers/practitioners reward the target skill/behavior consistently across settings. The success of the token economy program is dependent upon a number

of factors including teacher/practitioner implementation. It is essential that all teachers/practitioners who have frequent contact with the learner with ASD be familiar with the token economy program and how to implement it in a variety of settings. This will ensure that learners are being reinforced appropriately and thus acquiring the target skill/behavior.

9. Teachers/practitioners fade the use of tokens as the learner starts using the target skill/behavior independently.

As learners with ASD begin to use the target skill/behavior more frequently, teachers/practitioners gradually decrease the availability of the tokens. This is done by not reinforcing each and every instance of the target skill/behavior. For example, a teacher might provide the learner with ASD with a token every third time he uses the target skill/behavior. The target skill/behavior is reinforced on other occasions by providing social reinforcement (e.g., verbal praise, pat on the back, high five).

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Step 7. Monitoring Learner Progress

Changes in behavior are recorded daily on the same data collection sheets that were used during the baseline data collection phase. Progress monitoring data are used to measure a learner's acquisition of the target skill/behavior as well as the effectiveness of the token economy program.

1. Teachers/practitioners use progress monitoring data to determine the learner's mastery of the target skill/behavior.
2. Teachers/practitioners use progress monitoring data to adjust the program when problems arise or if the target skill/behavior is not increasing.

The same data collection sheets that were used before the intervention began are used to monitor learner progress. By using the same data collection sheets, teachers/practitioners are able to track a learner's use of the target skill/behavior before and after a token economy program is implemented. The following data collection sheets provide examples of how teachers/practitioners can use these data sheets before, during, and after intervention.

Table 27. Example of Time Sampling Data Collection Sheet

Date	T							Before, during, or after
	9:00	9:05	9:10	9:15	9:20	9:25	Total	
7/26/08	X		X				2	Before
7/27/08	X	X					2	Before
7/28/08	X	X		X		X	4	Before
7/29/08		X	X	X		X	4	Before
7/30/08	X	X	X	X	X		5	During
7/31/08	X		X	X	X	X	5	During
8/01/08	X	X	X	X	X	X	6	During

Table 28. Example of Event Sampling Data Collection Sheet

Date	Takes toy from peer	Total	Before, during, or after
7/26/08	X	1	Before
7/27/08	X	1	Before
7/28/08	X	1	Before

7/29/08	XXX	3	Before
7/30/08	XX	2	During
7/31/08	XXX	3	During
8/01/08	XXXX	4	During

Table 29 displays a list of potential problems and solutions when using token economy programs.

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Table 29. Potential Problems and Solutions

Problem	Descri	Sol
Unequal pricing of reinforcers	This happens when reinforcers are priced too low allowing learners to earn many reinforcers in a short period of time. Alternatively, reinforcers can be priced too high, resulting in learners giving up.	Role play with learner to demonstrate the details of the program. For example, a teacher might role play how to “save” tokens to get a higher priced item.
Token hoarding	Learners may accumulate large numbers of tokens and assume that they do not have to use the target skill/behavior or behave appropriately until the tokens run out. Hoarding may also result in a learner purchasing a large number of reinforcers in one day.	<ul style="list-style-type: none"> • Place expiration dates on tokens • Have a reinforcer sale in which all items are placed at a lower cost. This may decrease a learner’s desire to hoard tokens.
Behavior deteriorates after fading tokens	May be a result of fading tokens too quickly	<ul style="list-style-type: none"> • Go back to a brief period of continuous reinforcement and then try a smaller ratio to fade tokens (e.g., every two or three hand raises to get a token) • Provide praise when giving a token • Immediately reward behavior with token • Offer opportunities to exchange tokens more

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Appendix D

Email to Teachers from Coaches for Baseline

Dear _____,

Please begin using the attached data sheet on _____. The purpose of this data sheet is to gather baseline data on the number of times you use a token reinforcement system/ specifically a token board. Please follow these directions:

- 1) Pick two students in your class who would benefit from a positive reinforcement/token system. The students should spend a 90 minute block in your special education classroom.
- 2) Teach as you normally would. Do not introduce or use a positive reinforcement/token system unless you are already doing so.
- 3) Tally the number of times you fill a token board for each student during the 90 minute block. If you do not use a token board during that period please leave the block blank.
- 4) Please bring this baseline data sheet to our coaching session.

If you have any questions please let me know.

Thank you,

Appendix E

Steps for Implementing a Token System

1. Identify the target skill or behavior you would like to increase in observable terms. (ex: John will keep his hands to himself. Jill will stay in her seat for 20 minutes during language arts.

Student 1: _____

Student 2: _____

2. Identify Possible reinforcers. Identify 3 highly preferred items for each student.

Student 1: _____

Student 2: _____

3. Have the token board present at all times during the 90 minute block. When the student exhibits the behavior label it (ex: “nice sitting to do your work” or “you kept your hands to yourself, you get a token”) and immediately deliver the token.

4. When the student fills the token board they earn a short period of time with the preferred reinforcer. Fill the token board as often as possible.

5. Tally the number of times the token board is filled on the data sheet.

Appendix F

Data Collection for Teacher From Pair A And D

Frequency Data

	Student 1 Tally of Filled Token Board Within 90 minute block	Student 2 Tally of Filled Token Board Within 90 minute block
Tuesday		
Wednesday		
Thursday		
Friday		

Appendix G

Data Collection for Teacher From Pair B And E

Frequency Data

	Student 1 Tally of Filled Token Board Within 90 minute block	Student 2 Tally of Filled Token Board Within 90 minute block
Thursday		
Friday		
Tuesday		
Wednesday		
Thursday		

Appendix H

Data Collection for Teacher From Pair C And F

Frequency Data

	Student 1 Tally of Filled Token Board Within 90 minute block	Student 2 Tally of Filled Token Board Within 90 minute block
Thursday		
Friday		
Tuesday		
Wednesday		
Thursday		
Friday		

Appendix I

Interview Questions for Coaches

- 1) How effective was the intervention that you modeled for the special education teacher?

- 2) If it was effective, what do you feel you did to make it effective?

- 3) What would you have done differently to make it more effective?

- 4) Think of a case where your coaching was the most effective. What made it effective in that instance?

Appendix J

Interview Questions for Special Education Teachers

- 1) How effective was the intervention that your coach modeled for you?
- 2) If it was effective, what do you feel your coach did to make it effective?
- 3) What do you think your coach could do differently in the future in their interactions with you to be more effective?
- 4) Think of a case where your coach was effective. What made it effective in that instance?

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BIOGRAPHY

Michelle M. Roper received her Bachelor of Arts from George Mason University in 1998. She received her Masters of Education in Early Childhood Special Education from Virginia Commonwealth University in 2001. In 2007 she completed her Applied Behavior Analysis Certificate at George Mason University and is a Board Certified Behavior Analyst. Michelle has been employed as a behavior therapist, a special education teacher in Fairfax County for eight years and has worked in the Office of Special Education in Prince William County Schools for 3 years.