EFFECTS OF SELECTIVE ATTENTION ON PRESCHOOL TEACHER AND CHILD BEHAVIOR

by

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Bachelor of Arts
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1997

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2001

A dissertation submitted in partial fulfillment
of the requirements for the

Doctor of Philosophy Degree in Special Education
Department of Special Education
College of Education

Graduate College
University of Nevada, Las Vegas
August 2006

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Dissertation Approval

The Graduate College
University of Nevada, Las Vegas

July 10, 2006

The Dissertation prepared by

Keri Leigh Altig

Entitled

Effects of Selective Attention on Preschool Teacher and Child Behavior

is approved in partial fulfillment of the requirements for the degree of

Doctor of Philosophy in Special Education

Examination Committee Chair

Dean of the Graduate College

Examination Committee Member

Examination Committee Member

Graduate College Faculty Representative

1017-52

ABSTRACT

Effects of Selective Attention on Preschool Teacher and Child Behavior

by

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Teachers of preschool-aged children influence the development of preschool-aged children. As more children are enrolled in preschool centers, teachers of preschool-aged children need to be equipped with many strategies to encourage child development. One way teachers can encourage child development is to provide activities and structure so the child will engage with the environment.

This study examined the effects of training teachers of preschool-aged children to use selective attention and how training effected child engagement during circle time activities. Two classrooms in each of two preschool centers were selected. Teachers were trained on how to use the selective attention approach while measuring teachers' use of verbal praise and praise cues. Verbal praise and praise cues were used as contingent teacher attention on children exhibiting circle time expectations. Specific definitions of

verbal praise and praise cues are provided. It was hypothesized that teachers' use of selective attention would increase as well as child engagement in circle time activities.

Four teachers were trained on how to implement selective attention. The rate of verbal praise and praise cues was measured. Six children in each classroom (n=24) were observed. A momentary time sampling procedure was used to collect data relating to child engagement. All teacher and child observations were video taped. Teacher training sessions were also videotaped.

Findings suggested the four teachers increased the use of selective attention via verbal praise and praise cues. Though, teacher participant three did not improve her use of praise cues. Implementing the selective attention approach in preschool classrooms did not have an effect on child engagement. Child engagement data showed variable levels of engagement in baseline and intervention.

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ACKNOWLEDGEMENTS

This experience included hard work, persistence, and dedication to myself and the field of Early Childhood/Early Childhood Special Education. However, without God surrounding me with supportive individuals, this never could have been achieved. There are so many people who have been a part of this lifelong journey.

First, I thank my consistently laid-back husband Jim Schweikert. I love you and never could have done this without you! I thank my children Micajah and Elyeah who have waited patiently as I attended and taught classes, and typed late into the night. I thank my parents who supported me through life's celebrations and trials, and who archived multiple revisions of this dissertation via e-mail.

Second, my committee members and mentors at the University have been integral to my success. Thanks to Nancy Sileo for all of her time in advising, mentoring, and friendship. Words can not express how thankful I am to have had her as a mentor. Both she and Tom Pierce provided me with invaluable experiences that increased my knowledge of higher education. Thank you to Tom Pierce as he was so supportive of all of the doctoral students. I could not have started the doctoral program without his guidance. Data collection would have been much more of a nightmare without Matt Tincani. This project would not have been completed if it was not for his knowledge in single subject design and all of the time he spent with me through data collection.

Third, life would be so dry without humor, colleagues, and great friends. Thanks to the folks who helped me collect data - Shannon Crozier, Regina Brandon, Catherine Lyons, and Susan D'Aniello. Shannon kept me laughing throughout the doctoral program while others helped me keep the doctoral program in perspective. Thanks Nicole Dobbins, Terry Smedley, and Jennifer Stringfellow. We grew together as professionals as we formed RCL and the Wall. My personal friends have taught me to be more patient and life-focused. Thanks to all of you for all of your support!

CHAPTER 1

INTRODUCTION

One role of teachers is to facilitate children's educational and socio-emotional growth. Teachers employed by school districts have often had some training in behavioral techniques that may help the teacher manage the classroom environment. Some teachers use various behavioral techniques that may increase desired behavior. For example, teachers may attend to students' behavior using verbalizations (e.g., "good job"), gestures (e.g., giving a 'high five'), or the teacher may move within the proximity of the child.

Teachers of young children, though, may have had different training. Possessing a bachelor's degree in early childhood education is not required to work in a preschool. In the United States, 48 States require a Child Development Associate certificate (CDA) to be employed as a director or teacher in a child-care facility. The remaining States and Territories do not require a CDA (Council for Professional Recognition, 2005). CDA certificate holders must be able to show competency in multiple areas including "supporting intellectual competence and social-emotional growth" (Council for Professional Recognition, 2005).

Compared with 20 years ago, more parents are working today and enrolling their children in child-care centers (Osborne, Garland, & Fisher, 2002). Osborne, et al. (2002)

suggest that "three out of five infants and toddlers (and preschool-aged children) are in child care" (p. 44). Moreover, an estimated 56% of children ages 3 – 6 years were in center-based programs in 2001 (Childstats.gov, 2004). Some of the children served in community-based centers may have been at-risk for or experiencing developmental delays.

In 2001, 27% of families of children enrolled in community-based centers had income levels below the poverty line (Childstats.gov, 2004) which places these children at-risk for future delays. Some of the risk factors that place these children at-risk for delays are inconsistent parenting, inconsistent behavior management, and parental education level (Hancock, Kaiser, & Delaney, 2002). Therefore, it is crucial that teachers in community-based preschool centers have the skills necessary to enhance and facilitate children's school readiness and social-emotional growth.

Central to the social-emotional growth and school readiness of young children is the work of early childhood teachers. Early childhood teachers lay the groundwork for young children's responses to the classroom environment through the use of teacher praise, teacher expectation, and facilitating peer interactions (Jones & Kepner, in press). Further, early childhood teachers bolster school readiness skills in young children to help prepare them for elementary school. Therefore, teachers of preschool-aged children (3-6 years) must be equipped with research-based strategies that provide evidence of good developmental outcomes. For example, teachers can provide a safe environment for children to make choices, to understand the consequences of choices, and to participate in school readiness tasks.

McWilliam (1991) provides an overview of articles related to engagement and school readiness. McWilliam contends that research has not made the connection between preschoolers' engagement in activities and elementary grade school achievement. However, Ramey and Ramey (1992) conducted a literature review on early intervention and later benefits. Ramey and Ramey suggested that when children are receiving early intervention services, there is a decrease in school drop-out rates and later grade retention. Thus, the earlier a child receives some type of educational experience (e.g., preschool) the more likely the child receives some form of educational benefit.

Particularly important in early education is the notion of child engagement in activities or with peers. Risely (1986) suggested there are two reasons why preschool-aged children need to be engaged. First, Risley's focus was that when children are engaged, they are learning. Second, Risley suggested that inappropriate behaviors decrease as children are engaged. Cantrell, Stenner, and Katzenmeyer (1977) contend that teachers' knowledge level of behavior theory and positive teaching behavior increase the level of children's achievement (e.g., engagement).

Historically, McWilliam, Trivette, and Dunst (1985) define child engagement as the length of time a child interacts with the environment that is developmentally and contextually age appropriate. Moreover, children interacting with the environment or engaged with peers may likely participate in more activities (Malmaskog & McDonell, 1999). Unfortunately, teachers of preschool-aged children often are not trained in basic behavioral strategies that effect children's development, school readiness, and learning.

Teacher attention to student behavior provides myriad concerns for educators and researchers. Specifically, researchers have been concerned as to whether the type of

teacher attention maintains appropriate or avoidant behaviors in students (Taylor & Romanczyk, 1994). Recent research examined the relationship between why students behave appropriately and inappropriately (Martens, 1990; Lewis & Sugai, 1996; and, Taylor & Romanczyk, 1994). Specifically, these examinations included the findings of how peer interactions and teacher attention reinforces behavior. Researchers are most concerned in gathering practical information about how teacher attention to student *on-task* behaviors results in increased overall student achievement (Gardill, DuPaul, & Kyle, 1996; Cipani, 1995) as well as decreased student *off-task* behavior.

Teachers often attend to students when they are exhibiting undesired behavior. This attention positively reinforces the unwanted behavior thereby increasing the undesired behavior. McDaniel (1987) suggested teachers should provide specific, discrete, detailed instructions for activities and "look for good behavior" from children (p. 389). McDaniel contended the "core principle to positive reinforcement is [to] catch them being good" (p. 389). McDaniel explains that reinforcement can work when the teacher is attending to those who are doing what is expected. Moreover, McDaniel writes that teacher expectations need to be specifically stated to children in order for them to perform what is expected. Once children understand and perform what is desired, teachers need to provide praise. Rather than instructing what not to do, McDaniel wrote that teachers should praise for what is expected and performed. This reinforces the notion that teacher attention is contingent on children performing teacher expectations. Extending the idea of teacher attention, Rosenberg, Wilson, Maheady, and Sindelar (2004) and Jones and Kepner (in press) suggested that verbal praise should be child directed and behavior specific. Specifically, Jones and Kepner (in press) detail that verbal

praise should always consist of the child's name first, then the action (e.g., John is putting his pencil away; Amy has her eyes on me; Beth has her pencil).

Coppedge and Exendine (1987) provided five divisions of reinforcement that teachers can integrate into the classroom environment. Curriculum should be the first consideration. Gallagher (1985) wrote that engaging children in "novelty" (p. 106) and speeding up the presentation of material may keep children more interested in the curriculum. This may increase the learning potential of children and decrease problem behavior. Second, how the curriculum is presented could decrease problematic behavior. If children are engaged in learning, they are more likely to exhibit desired behavior. Third, in order to adjust their behavior, children need "feedback" (p. 107) aside from work that is given to the teacher. "Feedback" (p.107) may provide motivation for children to continue to perform at the expected level. Fourth, teachers need to acquire solid behavior management skills that integrate "human relations skills" (p. 108). Specifically, teachers need to acknowledge student qualities via praise and attend to them quickly. This may enhance a student's overall sense of worth. Finally, teachers should employ whole group behavior management while teaching. In some cases, teachers use various token economy systems. This may provide an environment that children value.

Teachers have an integral role in providing praise to students and ensuring that praise influences the behavior of students. One way a teacher can influence students' behavior is to examine Buck (1992). Buck suggests that in order for the classroom environment to be successful, a teacher needs to prevent anticipated behavior problems by "structuring the teacher's behavior to prevent student misbehavior" (p. 38). Brophy (1994) extends Buck's ideas as Brophy provides "effective praise guidelines" (p. 30)

designed to assist teachers to determine if praise is appropriate or ineffective. "Selective attention", as proposed by Jones and Kepner (in press), integrates Buck's "structuring the teacher's behavior to prevent student misbehavior" (1992, p. 38) with Brophy's "praise guidelines" (1994, p. 30). Jones and Kepner (in press) contend that teachers' movements, gestures, and praises should be occurring throughout instruction. For example, a teacher should be in physical proximity of a child that is doing what is expected or who is exhibiting desired behavior. The teacher's attention is contingent on the child performing what is expected.

There are two major components to Jones and Kepner's (in press) "selective attention" (p. 1) philosophy. First, teachers need to start from "a point of order" (p. 14). Jones and Kepner contend that teachers need to get children "ready to learn" (p. 14) by establishing 20-seconds for the children to remember what is expected of them in the next activity. Once the teacher has initiated the 20-second think time, the teacher should verbally praise the first two children who have completed the task. Jones and Kepner believe that by providing verbal praise to the first two children only, it creates a "sense of urgency" (p. 14) and an increase in compliance rates. Second, teachers need to provide a "rule [procedure] review" (p. 14). When the 20-second quiet time is complete, a whole group verbal review of what is expected begins. After a few sessions of the teacher instructing the children of the expectations, the children begin to restate the expectations. If more than three children are not attending to the expectation instruction, another 20-second think time is conducted.

The preschool setting often differs from the *typical* elementary classroom. Teachers of preschool-age children often structure the physical setting and daily schedule

to offer centers from which children choose. These center activities generally have common themes that are interests of the preschool children. Preschool children are usually interested in the day's or week's topic and preschool teachers facilitate their learning by incorporating the interests into the daily activities. This is an example of child-centered and teacher-directed activity (Davis, Kilgo, & Gamel-McCormick, 1998; Pretti-Frontczak & Bricker, 2004). Typically, teachers of preschool-aged children provide preschool children with activity centers that may consist of pre-math skills (e.g., sequencing), pre-writing skills (e.g., fine motor skills involving art activities), and visual-spatial skills (e.g., Lego ™ and block building). In these center activities, preschool children have many opportunities to engage in the materials, interact with peers, and interact with teachers. Subsequently, teachers of preschool-aged children have many opportunities to *instruct* and interact with preschool children in small group settings.

Purpose

A common problem with preschool teachers' training is that they lack training regarding positive reinforcement strategies (Council for Professional Recognition, 2005). As more children are being enrolled in child care facilities, it is imperative that teachers of preschool-aged children are able to administer research-based strategies with all of the children enrolled in their classroom. Further, there is limited research regarding the effectiveness of selective attention strategies (e.g., verbal praise, praise cues) with children in preschool settings. Research is needed to determine if selective attention techniques impact the behavior of preschool children. The purpose of the proposed study is twofold:

1. Does training preschool teachers to use selective attention via praise cues or verbal praise increase teachers' use of selective attention?

2. Does implementation of selective attention increase the number of preschool-aged children engaged with activities?

Significance

Praise is used throughout a child's school experience. Children may become satiated to praise if the same type of praise is provided. Therefore, teachers should be cautious as to the type of praise they use, how often they use it, and how they use it (Cannella, 1986; Jones & Kepner, in press; Martens 1990). According to Broughton (1983) preschool children should respond well to positive reinforcement and reinforcement should increase the child's ability to attend to tasks longer. This may increase the child's school readiness while decreasing problem behavior in the classroom.

There is limited research involving the use of behavior strategies (e.g., selective attention) in inclusive preschool settings. Much of the literature discussing preschool-age children and behavioral interventions refers to research that has been conducted with older children or with children who have specific behavioral needs such as students with autism (Shores & Wehby, 1999; Pfiffner, Rosen, & O'Leary, 1985; Strain, 2001). Various reinforcement techniques have been employed when trying to increase desired behavior from students (e.g., proximity, verbal praise, etc.) (Shores & Wehby, 1999; Pfiffner, Rosen, & O'Leary, 1985; Strain, 2001). Examining the responses of children in inclusive preschool classrooms will provide further evidence for inclusive practices, especially when teachers of preschool – aged children consistently use these strategies. As more children enter preschool programs, it is beneficial for teachers of preschool-aged

children to be equipped with more strategies to include typical developing and children at-risk for or experiencing delays. Training teachers of preschool-aged children to use the selective attention approach has not been examined.

Definitions of Terms

Student *engagement* in activities was measured during each observation period. Engagement with activities was recorded when the student was attending to and manipulating materials; eyes toward teacher during circle time while remaining quiet; eyes toward teacher during other instruction; or, speaking with peers during play (Malmskog & McDonnell, 1999). Engagement with activities was not recorded when the student was manipulating materials but not attending to the materials; eyes toward teacher during circle time but talking to peer; eyes not toward teacher but remaining quiet; eyes not toward teacher during other instruction; or, speaking with peers during teacher speaking time.

Verbal praise (Jones & Kepner, in press) was defined as a teacher's verbalization directed toward the student and contained the student's name and brief description of the behavior (e.g., Michael is getting started, Tom is lining up, etc.). Verbal praise was not verbalizations containing the phrases "great job" or "I like the way...".

Praise cue (Jones & Kepner, in press) was defined as verbal praise directed toward a peer, the target child responded to the cue and performed what was expected, and the teacher provided verbal praise to the target child. Praise cue was not defined as verbal praise directed toward a peer and identified child did not respond, directly praising the child, or moving within the proximity of the child.

Summary

Research related to the behavior of preschool children and teachers of preschool-aged is needed. It is imperative that preschool teachers are proficient in delivering appropriate behavioral interventions that influence a child's behavior and engagement in activities. Further, as more children enroll in childcare facilities, they are exposed earlier to teacher behavior which can lay the groundwork for future student – teacher interactions. The intent of this study was to provide data supporting the use of behavioral strategies with young children; specifically, examining the use of the selective attention approach and its effect on young children's engagement in activities while enrolled in community-based centers.

CHAPTER 2

REVIEW OF RELATED LITERATURE

Introduction

This chapter serves three purposes. First, to analyze and summarize the literature related to engagement of the preschool-aged child. Second, to evaluate and summarize the literature related to typically and atypically developing preschool-aged children receiving services in inclusive preschool settings. Third, to analyze and summarize the literature related to contingent teacher attention. Reviewing and analyzing these bodies of literature was needed to gain knowledge of preschool teachers' use of contingent attention and preschool-aged children's response.

The chapter begins with the literature review procedures, the selection criteria, and the criteria used to exclude studies from the review. Next, the analysis and review of literature are presented relating to preschool child engagement, children with disabilities or at-risk for disabilities, and contingent teacher attention. Finally, a summary and synthesis of the research is presented.

Literature Review Procedures

A systematic search through three computerized databases was completed (e.g., Educational Resources Information Center, Psychology Information, and Digital

Dissertations). These descriptors were used social reinforcement; teacher commands and preschool; time on-task and preschool; engagement and preschool not autism; teacher praise and engagement and preschool not autism; teacher praise and preschool not autism; teacher attention and preschool not autism; teacher attention and time on-task not autism; teacher attention and behavior management not autism; behavior management and preschool not autism; contingent attention and preschool not autism; teacher attention and inclusion and preschool not autism; inclusion and preschool not autism; at-risk and preschool not autism; at-risk and preschool not autism; teacher attention and school; contingent reinforcement and preschool; behavior and school readiness; vicarious reinforcement and verbal praise; imitation and verbal praise; modeling cues; vicarious reinforcement and verbal praise; vicarious reinforcement and praise; imitation and praise; vicarious praise; modeling and praise; social reinforcement; and, social reinforcement and education. Next, a manual search through the journals (from 2005 to 2006) that emerged from the computerized search was completed. The journals that were searched manually were the same journal titles as those gleaned from the computerized search (e.g., *Journal of Applied Behavior Analysis, School Psychology Review, and Topics in Early Childhood Special Education*). Finally, the search process involved reviewing the reference lists from the various articles obtained.

Selection Criteria

Studies were included in the review if: (a) the participants were of preschool-age or included teachers who worked with preschool-aged children; (b) the dependent variables related to contingent teacher attention, use of verbal praise, use of praise cue

(e.g., vicarious reinforcement), child engagement; (c) the study included preschool-aged children at-risk for or had developmental delays/disabilities; and, (d) the methodology was single subject or group design.

Studies were excluded in the review if: (a) the participants were older than preschool-age or did not work with preschool-aged children, (b) if all of the child participants were identified with autism, or (c) the study was a case study.

Review and Analysis of Literature Related to Engagement

McWilliam and Bailey (1995) completed a study examining whether a child's disability influenced child engagement in activities and if engagement was influenced by involvement of teachers. Several hypotheses were posed. First, McWilliam and Bailey anticipated teachers' involvement would positively influence children's attention only to the teacher. Second, McWilliam and Bailey suspected that children's attention would increase when they interacted with older children rather than same-age children. Third, it was anticipated that children with disabilities would have more difficulty interacting with same-age peers, but when they interacted with older children the difficulty would be less prominent. Lastly, a child's developmental age would not effect engagement.

Children aged one to four years from a university preschool participated in the study (n = 48). One-third of the children had developmental delays. Children were randomly assigned to one of two demographic groups: same-age or different-age. There were eight groups. All groups consisted of two children with disabilities.

The children were observed in their day-to-day classroom at the preschool. The teacher implemented the Learning Games curriculum. According to McWilliam and

Bailey (1995), the Learning Games curriculum required all children to participate in daily activities. All children with identified developmental delays continued to work on their goals and benchmarks as indicated in their IFSP.

Initially, all children were given the Battelle Developmental Inventory (BDI). McWilliam and Bailey (1995) used the BDI as a pre- and post-test to determine each child's developmental age. Each child was observed during an unstructured activity (e.g., free play), and during a structured activity. During the structured activity, the teacher gave attention to the child. Play was observed during free time or during a teacher-directed activity. There were eight observations for each child over ten weeks. Data were collected using the Engagement Check observation system. The Engagement Check observation system is a momentary time sampling procedure. Each child was observed for 15 seconds after which the observer took a "mental snapshot" (p. 127) before coding. Reliability observations were conducted over 11% of all the observation sessions. A two-way ANOVA was used to analyze the data.

McWilliam and Bailey (1995) found a main effect between teacher involvement with activities and an increase in child attention. Conversely, when a teacher was not involved with child activities (e.g., free play) child attention was minimal. When examining the relationship between peer age and attention, McWilliam and Bailey concluded that when children were placed in multi-age groups they attended to peers more often than when the teacher was involved in activities with children. However, when children were placed in groups with peers of the same age, the children attended to peers and teachers similarly. Free play had a direct negative relationship on child engagement.

McWilliam and Bailey (1995) contend that children with disabilities spent more time interacting with adults than with peers and children with disabilities spent less time manipulating materials. Further, children tended to behave similarly to peers without disabilities as they age. However, when children with disabilities were educated with various age groups, children tended to engage less with adults.

McWilliam and Bailey (1995) concluded that as children with disabilities grew, they tended to interact with peers similarly to children without disabilities. Consequently the engagement disparity between children with and without disabilities closes as children age. McWilliam and Bailey suggested that this disparity is less evident by five-years-old.

McWilliam and Bailey (1995) cautioned readers of the generalizability of these findings. First, each play group had six children. This could have had an effect on the findings because of the small group size. Second, child participants received daycare services at the university's daycare. Children of teachers and students of the university may interact with their children differently than what might be expected from the general population. An additional limitation to this study was that McWilliam and Bailey developed their own observation tool and validity and reliability of the observation tool was not evaluated or established.

The purpose of a study conducted by Mahoney and Wheeden (1999) was to evaluate the effect of teacher instruction style on child engagement. Participants included 49 teacher-child dyads. Special education teachers instructing in early childhood special education classrooms nominated children from the classroom to participate (36 boys and 13 girls). All of the children had been diagnosed with various medical conditions

indicative of later learning problems and were between the ages of one to six years – old (e.g., Down syndrome, spina bifida, encephalitis, etc.). Teachers rated their perception of each child's overall development. Children remained in the study if teachers perceived the child as being able to use fine motor skills to play with toys.

The teacher-child dyads were observed during 3 conditions for a total of 21 minutes. The dyads were observed while alone, during free play, and during instruction. Each observation was either in a quiet area of the classroom or in a different room. Each session was videotaped. During the alone condition, the teacher-child dyad was in a quiet area and the teacher was instructed to sit and not interact with the child. The child was given toys. In the free play condition, the same toys were used as in the alone condition. The teacher was instructed to interact with the child as they would typically. In the instruction condition, the teacher was asked to work with the child using the necessary materials while using an objective from the IEP.

In all conditions, Mahoney and Wheeden (1999) used modified items from the Child Behavior Rating scale, the Maternal Behavior Rating Scale, and the Teacher Behavior Rating Scale and provided observation definitions (e.g., alone, frequency, persistence, involvement, etc.). All of the behaviors were rated using a five-point Likert scale and the teacher-child turn taking was transcribed during the first 100 observed interactions.

For each observation, three researchers coded the data. Interrater reliability revealed low agreement (e.g., 45-70%) on the Child Behavior Rating Scale. Interrater reliability on the Teacher Behavior Rating Scale agreement was low as well (e.g., 50-80%). Reliability using percent agreement on turn taking revealed higher consistency

across raters (e.g., 79%, 89%). Data were analyzed using means, standard deviations, and t-tests. Results indicated children involved themselves in activities more during free play than instruction. Conversely, children complied with teacher directions and attended to activities more during instruction than during free play.

Mahoney and Wheeden (1999) contend they had multiple findings. First, when teachers taught lessons they tended to be directive and less child-focused. Second, they indicated that teachers' directiveness increased children's responsiveness to teachers and not to peers. Third, when teachers were not as directive, children tended to initiate with peers more often. Fourth, Mahoney and Wheeden contend that teachers need to use more responsiveness with some directives to increase children's engagement.

This study had several limitations. First, this study had problems with generalizability. Mahoney and Wheeden (1999) used a small number of children with disabilities receiving services in early childhood special education. Second, teachers were asked to "estimate" (p. 54) the child's development. Mahoney and Wheeden did not mention if they formally assessed each child or used some other measure such as portfolio assessment. Third, Mahoney and Wheeden observed each child for only 21 minutes perhaps in a different setting. Removing the child to another classroom, or keeping them with classmates in a noisy room, may have affected the child's responsiveness. Further, the use of the video camera may have influenced the teacher-child interaction. Fourth, during the free play condition, teachers were asked to "play with the child as they normally would" (p. 54). Playing could be used as an instructional period. Further, each teacher's play behavior could be quite variable. Last, the behavior definitions were not observable, measurable, or specific. Language such as

"intensity...attends...quality...participates..." (p. 55) were used in the definitions. The use of these words may be perceived differently when readers and researchers review the article.

Summary of Research Related to Preschool - Aged Child Engagement

McWilliam and Bailey (1995) and Mahoney and Wheeden (1999) both examined the effect of teacher involvement in activities and its effect on child engagement with activities, the teacher, and to peers. McWilliam and Bailey selected child participants ages one to four years-old while Mahoney and Wheeden selected children ages one to six years-old. Both McWilliam and Bailey and Mahoney and Wheeden concluded that teachers' involvement or direct teaching increased children's attention or engagement with activities or to teachers. McWilliam and Bailey suggested that teachers' involvement (e.g., attention) in children's activities it critically important to child engagement. Further, McWilliam and Bailey contend that free play was detrimental to the level of child engagement. However, Mahoney and Wheeden suggested that the teachers' style of activity presentation had an effect on child engagement in the activities but that children did not initiate with their peers.

Review and Analysis of Literature Related to Disabilities and At-Risk

The purpose of a study conducted by Wehby, Dodge, and Valente (1993) was to examine if differences exist between behaviorally at-risk and average first graders on teacher and peer exchanges and relationships. Participants consisted of children who were from low socioeconomic status (SES) areas, lived in areas that were violent, were at-risk

for school drop-out, and were at-risk for developing behavioral problems in school. All participants were located in a southeastern city. A total of ten schools were selected where 726 children were screened for behavioral difficulties. Teachers and parents of kindergarten children were interviewed. Teachers and parents completed an adapted rating scale regarding each kindergarten child's behavior. Children were selected to participate if scores from both teacher and parent reports were consistently high (e.g., at-risk of behavior problems).

Researchers observed the children in first grade. Each child was observed a total of two hours. Child behavior was recorded during observations using the Multiple Option Observation System for Experimental Studies (MOOSES) and the Social Health Profile (SHP). After observations, the ASKER was used to determine the observer's feeling of the child's behavior. Wehby, et al. observed both structured (e.g., P.E., classroom instruction) and unstructured (e.g., transitions, lunchroom) settings. Interobserver agreement was over 12% of the observation sessions and was randomly distributed (Event mean agreement = 88%; range = 60-100%; Engagement mean agreement = 75%; range = 44-100%).

Wehby et al. (1993) used a MANOVA to examine significance. The groups were at-risk status and the four dependent variables (teacher interactions, peer interactions, child engagement, and observer ratings). Regarding teacher interactions, significant findings were related to the mean rate per minute observations for teachers interacting negatively to children in the at-risk group in both settings. A separate MANOVA was calculated for peer interactions but Wehby et al. did not find significance. However, when they calculated t-tests, Wehby et al. found significance in two areas. First, the at-

risk group had less peer initiations during structured events. Second, the at-risk group had more disruptive behavior. In relation to child engagement, children identified at-risk showed less engagement during unstructured events when calculating t-tests between groups. A MANOVA was calculated for the observer ratings but Wehby et al. did not find significance. Moreover, when calculating t-tests Wehby et al. found that the identified at-risk group was rated lower in accepting directions from teachers and in the ability to attend than the typical group.

Some limitations of this study include the authors' adaptation of rating scales to determine if children were at-risk for behavioral disorders. Portions of the parent rating scale included items from the Achenbach Behavior Scale, and reliability and validity of those items may be limited. Additionally, reliability and validity of the other assessments (MOOSES, SHP, and ASKER) were not provided by the authors. Therefore, it was difficult to determine if children were identified as 'at-risk' with reliable and valid instruments. Also, it was difficult to determine if the observations were reliable and valid because of the limitations in the assessments. Another limitation was the authors' use of behavior codes that were not specific, observable, or measurable. Wehby et al. (1993) wrote that observations were conducted over 4 days for 30 minutes each, but children were observed in unstructured settings for 45 minutes. The authors did not indicate if this 45 minute observation period was in addition to the original two hours of observation. Wehby et al. indicated that 726 children were used for the observations, yet they never indicated how many children were in each group.

A study conducted by Brown, Odom, Shouming, and Zercher (1999) investigated preschool-aged children with and without disabilities in inclusive community-based

settings. Brown et al. contend that the inclusive literature involving preschoolers in community settings can not generalize to the typical community-based preschool setting. Consequently, Brown et al. questioned whether children with and without disabilities in typical community-based preschool settings "(a) participate in different activities, (b) participate in different group arrangements and compositions, (c) initiate differently, (d) exhibit varying social and nonsocial behavior, and (e) do teachers exhibit different adult behaviors in inclusive settings" (p. 139).

Preschools from four States were used, totaling 16 inclusive preschool classrooms. Preschools were chosen by factors such as urbanization, inclusive practices, and center category (e.g., preschool, child care, Head Start, etc.). On average, two preschool classrooms per center were used. There were 112 preschool-age children who participated. There were 32 children without disabilities that participated and 80 children identified with disabilities. Children identified with disabilities included language impairment; developmental delay; mental retardation; physical impairment; autism; emotional, behavioral, AD/HD; hearing impairment; visual impairment; and, health impairment. Adults per class were averaged (n = 3.5). There were many factors for selecting participating children and included the child's disability (e.g., mild disability, severe mental retardation, autism); parental socioeconomic status; primary language; and, race.

Participating children were observed using a systematic observation system. The Code for Active Student Participation and Engagement-Revised (CASPER-II) was used to record adult and child behavior. Standard observations of the environment included focused observation on one child, and collecting data on teacher and child behavior.

Observers were trained until 100% and 85% accuracy were achieved on a written test and observations, respectively. The duration of each observation was 30 minutes. There were 6 sessions that totaled 3 hours of observation. All observations were done over a minimum of three days. One participant was observed for two seconds then the behavior was recorded using the CASPER II. The child's behaviors were recorded via the child's membership in groups (e.g., whole, solitary, peers, etc.), involvement in center, initiation of interaction, overall behavior, overall socialization, and overall behavior of the teacher. If more than one behavior was occurring simultaneously, the behavior occurring most frequently was recorded. Each child's behavior was observed for three hours total. Interobserver agreement was completed over 32% of the sessions. The percent of interobserver agreement was 66% or above. The lowest percent agreement was the coding area of "large group of 3 or more peers" (Brown, et al., p. 142).

Brown et al. (1999) found that children with and without disabilities engaged with the environment similarly. However, children with and without disabilities interacted in small groups differently. For example, children without disabilities interacted with peers in groups without adult assistance whereas children with disabilities needed assistance. Brown et al. contend that children without disabilities find more opportunities to socially interact with peers than do children with disabilities. Further, Brown et al. acknowledged that preschool children without disabilities were more likely to be included in groups of children without disabilities; conversely, children with disabilities played by themselves. Adults initiated children with and without disabilities similarly. Typically, adults initiated activities during interactions with children with and without disabilities.

During activities, Brown et al. (1999) examined behavior exhibited by children with and without disabilities and found no differences. Brown et al. found that both groups of children were involved in similar adult interactions the majority of the day especially when the adults were providing center directions or when in large groups (e.g., reading).

Some strengths of this study include the diverse, broad base of child participants. Brown et al. (1999) used multiple sites in the United States and were able to include children from varying backgrounds (e.g., age, ethnicity, SES, geographic location, etc.). Additionally, Brown et al. were able to use a high number of children unlike other studies. There were also some weaknesses to Brown et al.'s study. First, Brown et al. used a two-second observation to later record one of seven child and teacher observation variables. A two-second observation time limit may have underrepresented child and teacher behavior. Second, Brown et al. observed over a three day period. This may have provided only a small sample of preschooler behavior and makes it difficult to generalize to all preschool populations. Further, Brown et al. asked the preschool teachers for specific times that were good to observe child and teacher interactions. A teacher suggested observation time may have influenced the dynamics of the group (e.g., some children not in attendance at that time, breakfast served late, no nap for the day, etc.). Third, the various identified disabilities may have impacted this study's findings. For example, children who were identified as having a hearing impairment or teachers instructing them may have not used sign language to facilitate communication.

The purpose of a study developed by Malmskog and McDonnell (1999) was threefold. First, to determine if implementing interventions through embedding in

developmentally appropriate practice (DAP) within an inclusive preschool classroom would increase engagement in a preschool-age child with disabilities. Second, if changing the intervention would influence the environment. Third, if the primary stakeholders were satisfied with the intervention.

Preschool-aged participants who had delays were selected. Two children, ages 60 to 66 months, attended preschool programs in two facilities: Head Start and the school district. One child, age 57 months, attended the preschool program offered at Head Start and was receiving speech and language therapy. The Head Start program offered services to 100 preschool age children from various ethnicities. Positive results from The Classroom Practices Inventory and written documentation were needed before a classroom was considered for participation.

Four areas were examined: (1) physical proximity and eye gaze to establish attention, (2) time for the preschool-aged child to perform a task before the teacher assisted, (3) setting up the environment with natural reinforcement and reiteration of expected behavior, and, (4) demonstration, verbal critique of the behavior, and a chance to learn the expected behavior when the preschool-age child was incorrect.

Single subject methodology was implemented. Child engagement data were collected during all phases via momentary time sampling every 30 seconds for a total of 30 minutes. Further, observations and data on the trainer were completed. These observations focused on whether the trainer implemented the training sequence to the child or if the trainer used another strategy (e.g., ignoring).

Interobserver agreement (IOA) before intervention was set and met at 90%. During the intervention, the observers collected observational data separately. The

Ecobehavioral System for Complex Assessment of Preschool Environments (ESCAPE) was used to gauge if the intervention affected the classroom's DAP. ESCAPE is a momentary time sampling program that cues observers to begin their data collection every 15 s. The authors measured social validity from teachers and parents. Both teachers and parents were asked to observe a few intervention sessions and rate its effectiveness. Further, teachers and parents were interviewed about the effectiveness of the intervention. A multiple probe baseline across participants with random baseline and intervention probes design was used.

Trainers met with the teachers of the selected students to gather information about the selected students regarding the student's level of engagement and developed training specific to each child's need. The curriculum in each class was continued, but adjusted to increase a child's engagement. Observations began when the inappropriate behaviors were most likely to occur.

During baseline data collection, teachers were asked to continue to interact with the students as they had, but to limit initiations. The trainer was in the student group prior to data collection but did not interact with the children. The intervention consisted of four phases. In phase one, the trainer demonstrated appropriate play and reinforced the student's attempt with "specific comment.... and a 30-second elaboration of the play" (p. 208). More intensive instruction was given if the student did not begin play within 5 seconds. If the student never responded to the trainer's cues, the trainer gave attention to other students in the class. In phases two and three, teachers were asked to wait 20 seconds before interacting with the child. In phase two, if the child did not initiate, the teachers demonstrated and encouraged the child verbally. Conversely, in phase three, the

teachers did not demonstrate the response; rather, they verbally encouraged the child to interact. During phase four, teachers were instructed to reduce reinforcement and not to provide verbal encouragement to interact. Maintenance probes were collected after ending the study.

Results from phase one indicated that all children increased time interacting with peers or engaging in activities while decreasing their undesired behaviors. Through phase two and into phase three, the children's desired behavior remained stable. In phase four, two of the three children's behavior remained stable. All of the data from the maintenance probes for two of the three students showed similar levels of engagement as seen during the intervention. Observations using the ESCAPE observation system revealed that teachers became more student oriented whereas teacher initiated tasks decreased during intervention. Consequently, teachers increased time with student participants. Maintenance data revealed that all children continued to be engaged in the environment and interact with peers. Further, interobserver agreement (IOA) data were collected throughout the study on all children. IOA data appeared to be reliable for each student, across interventions, and teacher responses (IOA data was greater than 90%). Questionnaires completed by teachers and parents revealed that social validity was positive. Further, they would use or would like the teachers to continue to use the intervention in the classroom.

Malmskog and McDonnell (1999) concluded that the study proved to be successful and supports the use of teacher intervention. Further, they suggest that although the classroom environment may have supported the students' with disabilities, the teachers needed strategies to ensure the students were appropriately engaged.

There are multiple weaknesses in this study. First, the authors did not mention how the students were selected to participate. One of the selection criteria was that each child must have a disability, Malmskog and McDonnell (1999) did not mention why these three children were selected. Second, the authors did not mention who completed the NAEYC rating scale to determine if the classrooms were developmentally appropriate. If the rater was not trained in developmentally appropriate practices, the results of the scale may have been skewed. Third, Malmskog and McDonnell did not mention how the trainer gained rapport with the children prior to collecting baseline data. The trainer's presence may have contributed to the children being more engaged. Fifth, the authors used the Kaufman Ability Battery for Children (KABC) to determine the children's intelligence level. However, Malmskog and McDonnell gave each child only one subtest of the KABC to determine intelligence. Giving one subtest does not provide enough information about a child's performance and may be a low estimate of what the child can perform. Sixth, the authors should have collected data on typical children to evaluate if they too increased their level of engagement relative to teacher training. Seventh, the authors reported maintenance data solely on children, but it was unclear if Malmskog and McDonnell reported maintenance data on the teachers. Teacher data are important because it would provide information on whether teachers learned and maintained their level of training.

The purpose of a study conducted by Coolahan, Fantuzzo, Mendez, and McDermott (2000) was to evaluate how children from low income families interact with peers. This interaction will influence the child's pre-academic behavior "motivation, persistence, and attitude...and classroom behaviors" (p. 459). Child participants received

a preschool education through a Head Start program in a city in the northeast. Child participants' ages ranged from 3 years 8 months to 6 years. Most of the children were African-American (87%) while the other 13% were European American, Hispanic, and Asian-American. A total of 556 children participated and 43 teachers from 14 Head Start programs rated the children. All of the teachers completed the rating scales within the same month.

Teachers were asked to complete the Penn Interactive Peer Play Scale (PIPPS) and either the Conners' Teacher Rating Scale-28 (CTRS-28), or the Preschool Learning Behaviors Scale (PLBS). A total of 556 PIPPS were completed while a combined 365 scales were completed of CTRS-28 and PLBS. The PIPPS consisted of 32 rating scale items. The scale had questions relating to interactive play, disruptive play, and disconnected play. The PLBS consisted of 29 rating items relating to learning and provided information regarding motivation, attention, and attitude. The CTRS-28 was a 28 item rating scale that grouped the items into 3 categories; hyperactivity, conduct, and inattentive.

Coolahan et al. (2000) used a canonical variance and a redundancy analysis to evaluate the variance of similar constructs on the three measures. Further, a MANOVA was used to assess gender and age differences on all categories of the PIPPS. Results from the MANOVA indicated a significant difference between age groups and gender. Specifically, boys tended to be more loud and isolated play. Girls, though, tended to interact with peers during play. Further, younger children exhibited more isolation in their play.

Coolahan et al. (2000) concluded that children who exhibit "positive interactive play behaviors were actively engaged in the classroom activities" (p. 458). Conversely, children who were isolated in their play did not engage in classroom activities. Thus, children who had positive play relationships were better equipped to learn later. Teacher ratings revealed that teachers rated loud children as having more self-indulgence. Teachers also rated children who exhibited isolated play as not eager to learn.

There were some significant strengths and weaknesses to this study. Regarding strengths, Coolahan et al. (2000) tried to link preschoolers' school readiness with the preschoolers' active engagement in activities. Second, they provided suggestions for school-based practitioners to increase the level of play-based activities in kindergarten and first grade settings. Lastly, Coolahan et al. cited multiple historical and recent studies examining play-based interactions and a child's acceptance by his peers. However, there were also some weaknesses in this study. First, while Coolahan et al. appeared to gather data from multiple sources (e.g., PIPPS, PLBS, and CTRS-28), the data collection was inadequate. For instance, they gathered 556 PIPPS rating scales but only 365 rating scales from CTRS-28 and PLBS combined. Second, standardization sampling was inadequate for the PLBS. The PLBS was standardized using 100 children from 3.5 years to 5.5 years. Additionally, the sample was ethically sub-standard for use with this population (e.g., "33% non-White", p. 460). Third, the PIPPS standardization sampling was not reported. Fourth, rating questions from the scales were not observable, measurable, or specific. Thus, teachers may have rated children differently because of the lack of definition specificity. Fifth, Coolahan et al. divided the sample in half when they were examining gender and age differences. However, they did not report how many children were in

each group. This grouping may have skewed the results and conclusions. Lastly, Coolahan et al. collected data on such a small subset of children in a specific area of the Country that it would be difficult to generalize the results from this study to other children.

Summary of Literature Related to Disabilities and At-Risk

As the existing research demonstrates, children with disabilities or who are at-risk for disabilities have a more difficult time engaging with the environment or with peers. Specifically, Wehby, Dodge, and Valente (1993) found that children at-risk for disabilities had more disruptive behavior, less interaction with their peers, and less engagement during unstructured times of the day. Further, teacher ratings of the at-risk group predicted that children at-risk show lower levels of attention and accepting directions from teachers.

Although Brown, Odom, Shouming, and Zercher (1999) contend that children with and without disabilities engage in the environment similarly, children with disabilities need more adult assistance when interacting with peers. Brown, et al. found that children with disabilities play alone more often than children without disabilities. Coolahan, Fantuzzo, Mendez, and McDermott (2000) extended this research and found that children who play in isolation tend to not be well-equipped for later learning perhaps due to the lack of engagement in the preschool environment. Coolahan et al. contend that children need to have relational play in order to be equipped to learn.

Malmskog and McDonnell (1999) further demonstrated that providing children with time, reinforcement, teaching the expectations, and reiterating the expectation can

increase a preschool-aged child's engagement with the environment. Malmskog and McDonnell's study is critically important to preschool teacher preparation programs.

Review and Analysis of Literature Related to Contingent Teacher Attention

The purpose of a study conducted by Strain and Timm (1974) was to investigate how a preschool-aged child and peers behaviorally responded when teachers used contingent adult touch and verbal praise to the preschool-aged child. Also, Strain and Timm investigated whether the child and peers responded when teachers used adult touch and verbal praise directed to peers.

An early intervention program was selected as the participating classroom. The early intervention classroom focused on language curricula. A female child aged 3-years 8-months participated in the study. She exhibited hyperactivity, solitary play and delays in language and toileting. She was also identified and described by teachers in the classroom as the most detached child (e.g., isolated play). Typically, 14 children were in the classroom each day. The child participant was observed for three levels of gestures. First, positive gestures (e.g., touch with hands, wave, sharing responses); second, initiated gestures (e.g., if the behavior was seen immediately before or after another child's behavior); and, third responsive gestures (e.g., the behavior immediately followed another child's behavior). The teacher was observed on contingent attention. Contingent attention was defined as verbal praise and physical contact. For example, if a child used gestures to respond or initiate with peers, the teacher touched and verbally praised either the child participant or her peer. All observations were during free play.

Each observation was eight minutes long. Each minute was segregated into 10-second intervals and behaviors were recorded on pre-printed forms. The form had two rows in which to mark data. The first row was to indicate gesture data and the second row was to indicate verbal data. If the child-participant exhibited a response an "S" was used. If a peer exhibited a response a "P" was used. Also, a plus or minus sign was used to indicate if the behavior was positive or negative. If the teacher provided contingent attention to the child or peer, a "t" was placed beside the peer or student observation mark. Interobserver agreement was calculated for eight of the sessions across peers, child participant, and contingent attention sequences. The interobserver agreement ranges were 84% to 97%.

A single-subject reversal design was employed in this study. Generally, eight data points were gathered for each phase. Baseline data were collected. During the first intervention phase, two graduate students were trained to provide contingent attention to peers who were initiating or responding to the child participant. Only one graduate student was providing contingent attention during one observation session. Data were collected during the return to baseline phase. During this phase, the graduate students were told to refrain from providing students with contingent attention. The second intervention phase consisted of the graduate students providing contingent attention to the child participant when she positively initiated or responded to her peers. The final return to baseline phase consisted of the graduate student not providing the child participant with contingent attention. Interobserver agreement (IOA) data were taken. Reported IOA mean percentages were above 84% for all behaviors.

Overall, results indicated that during intervention phases both peers and the child participant responded similarly and at higher rates than in baseline phases for both operational definitions of positively initiated and responded. Upon further examination, the child participant exhibited higher rates of behavior when teacher attention was given to her rather than her peers (intervention two). Similarly, when contingent teacher attention was provided to peers, both peers and the child participant responded at a higher rate than during baseline.

Strain and Timm (1974) concluded that contingent adult attention (e.g., verbal praise with touch) produced a higher rate of positive behavior in the child participant and her classroom peers. Though, Strain and Timm suggested that there may be a confounding variable that increased the children's response rates. First, when the graduate students were providing contingent attention, the graduate students were within a close distance and provided other reinforcement (e.g., smiling). Further, Strain and Timm suggested that the order of the intervention may have an effect on the response rates of the children. For example, Strain and Timm contend that the child participant's play behavior was different during the first two Baseline phases (e.g., played in isolation versus played in isolation near peers).

There were several weaknesses to this study. First, during the intervention phases, Strain and Timm (1974) had graduate students provide the intervention to the child participant and peers. There may have been an effect on the children' behavior because the graduate students were new to the room. Second, the definition of adult attention (e.g., verbal praise and physical contact) was not operationalized. For example, Strain and Timm provided an example of physical contact as "pat on back, rub head, etc." (p.

585), but did not provide an exact definition of physical contact or what was not physical contact. Further, Strain and Timm did not provide an example of verbal praise. Third, Strain and Timm did not provide any information on treatment integrity in the training of graduate students nor social validity.

Strain, Shores, and Kerr (1976) conducted a study with three main purposes. First, to extend the research completed by Strain and Timm in 1974. Second, to examine if peers' behavior affected how much "spillover" (p. 32) occurred when not reinforced for appropriate behavior. Third, to determine whether "spillover" (p. 32) could be used to optimize reinforcement techniques in a natural setting.

An early intervention program was selected as the participating classroom. The early intervention classroom focused on language curricula. There were three male children aged four years one month to four years six months who participated in the study. Characteristics of the children included late language, tantrums, isolated play, and oppositional behavior. Other children in the classroom exhibited similar behaviors. Daily, seven children were in the classroom. The child participants were observed on two levels of gesture behavior and two levels of verbal behavior. The first level of gesture behavior was positive (e.g., appropriate touching, waving, sharing). The second level of gesture behavior was negative (e.g., obliterating toys, hitting, punching, etc.). The first level of verbalization behavior was positive (e.g., any verbal response not including yelling, whining, etc.). The second level of verbalization was negative (e.g., any verbal response including yelling, whining, etc.). The teacher was observed on prompting and reinforcing. Prompting was defined as any interaction from the adult to increase child's participating behavior. For example, a prompt was physically moving a child into another area or

modeling appropriate behavior with a peer. Reinforcing was defined as any positive physical or verbal behaviors that were contingent on appropriate child behavior. For example, verbal praise was given to a child during appropriate interactions with a peer. All observations were during free play.

Observations were conducted after one minute when the teacher announced free-play. Each observation was 18 minutes; six minutes consecutively for each child. One recording sheet was used for each 18 minute observation period. The forms for recording the data were the same as in the 1974 study by Strain and Timm. Each minute was segregated into 10-second intervals and was recorded on pre-printed forms. The form had two rows in which to mark data. The first row was to indicate gesture data and the second row was to indicate verbal data. If the child-participant exhibited a response an "S" was used. If a peer exhibited a response a "P" was used. Also, a plus or minus sign was used to indicate if the behavior was positive or negative. If the teacher provided contingent attention to the child-participant or peer, a "t" was placed beside the peer or student observation mark. If the teacher provided prompts for the child, a "c" was placed at the appropriate place on the form. Data collectors were trained to meet 85% agreement prior to data collection. Interobserver agreement was calculated for 15 of the sessions across peers, child participants, and teacher attention. The mean interobserver agreement ranges were 84% to 98%.

A single-subject reversal and multiple baseline design were used in this study. The reversal design was used for each subject while the multiple baseline design was used to examine the effects of "spillover" (p. 32). Baseline data were collected and continued until a stable set of responses was observed.

During the first intervention phase, the classroom teacher was trained to provide contingent attention and prompting to one of the three child participants while positively interacting with others. Data were collected during the return to baseline phase. During this phase, the teacher was instructed to refrain from providing students with contingent attention. The second intervention phase consisted of the teacher providing contingent attention to one of the child participants while positively interacting with others. The third baseline phase consisted of the teacher refraining from providing the child participant contingent attention. Only two of the child participants were involved in the last baseline phase. Data were combined to examine the effects of "spillover" (p. 32). Strain et al. (1976) contend that since the intervention with each child was graduated, the child not in intervention could serve as a general peer.

Overall, results indicated that all child participants responded similarly and at higher rates during intervention than in baseline phases for positive social behavior. When the teacher did not provide contingent attention, the children's negative responses increased while the positive social behavior decreased. This occurred throughout the reversal design. As for "spillover" (p. 32), Strain et al. (1976) found that "spillover" effects were found under each intervention condition especially when two of the three child participants were receiving the intervention. Strain et al. contend that the teacher increased her use of prompting and reinforcing as was indicated by the mean frequencies (e.g., range of means for prompting = 12.6-15.5; range of means for reinforcing = 6.2-12.8)

Strain et al. (1976) concluded that contingent adult attention (e.g., prompting and reinforcing) produced a higher rate of positive behavior in the child participants.

Additionally, a higher rate of positive behavior was seen for two child participants when the other child participant received the intervention. Though, Strain et al. suggested that there were other variables to consider that may have influenced their findings. First, child participants may have lacked mimicking behaviors suitable for this type of reinforcement. One of the child participants required food and verbal reinforcement. This did not increase the child's negative or positive responding behavior. In fact, this child did not exhibit much behavior throughout the study. Strain et al. suggested teachers should examine children's experience with contingent teacher attention as reinforcement prior to implementing reinforcement such as this. Strain et al. were concerned about a few uncontrolled variables. First, Strain et al. noted that the early childhood preschool classroom where the children were enrolled implemented a strict classroom behavior plan within the classroom. The children may have responded differently if they had not had this previous experience. Though, Strain et al. suggested that teachers did not use contingent positive verbal comments.

There are a few weaknesses to this study. First, Strain, et al. acknowledged that using reinforcement and prompting together may have influenced the results. Future studies need to conducted to tease out the effects of each individually. Second, Strain et al. told teachers to reinforce children's "...positive social behavior" (p. 33) but did not define it. Third, Strain et al. provided a table with mean and ranges of teacher and child behavior during the intervention phases. However, a table was not given relating to teacher and child responses during baseline. This was needed to make a solid comparison. Fourth, Strain et al. never discussed the results of training teachers to use contingent teacher attention via prompting and verbalizations as it related to baseline.

These data need to be reported and may be useful. Fifth, Strain et al. should have considered examining the social validity with the appropriate stakeholders. Sixth, Strain et al. did not provide information on treatment integrity in the training the teacher.

The purpose of a study conducted by Broughton (1983) was to determine if children who did not receive positive reinforcement increased on-task behavior or had an increase in correct academic responses. A teacher nominated six students in the fourth grade general education classroom. All of these students had difficulty remaining on-task and had low scores on math. The children were randomly paired while only one student in the pair received the intervention. Desks in all four corners of the classroom and the center were grouped. The pairs sat in one of the five grouped desks. During the math sequence of the day, nominated children were asked to complete worksheets with 20 math problems in 15-minutes. Problems were 2x3 multiplication vertically oriented.

When children completed the math worksheets, the classroom teacher corrected it and gave it to the researcher. The teacher's marks were covered and given to the researcher to compute reliability regarding the number of math problems correct and the number of attempts made by the child.

The research design used in this study was a multiple baseline across participants. During baseline, the teacher was told to teach math as in the past (e.g., sitting in seat, scanning the environment occasionally, etc.). When intervention began, the teacher was required to use teacher attention as a means of positive reinforcement. Also, the teacher was instructed to roam the room and followed coaching with written instructions to provide accuracy feedback verbally and written (e.g., "good for you...", placing a mark next to the correct computation, etc.). Additionally, the teacher was told to give verbal

feedback loud enough for the other child in the pair to hear. Broughton (1983) used a duration recording time sampling procedure. Every 20 seconds Broughton observed a student pair and recorded if the target child was on-task. On-task was scored when the "student was seated, had eyes on the math worksheet, was writing on the worksheet, or was talking to the teacher for the entire observation interval" (p. 28). A student's behavior was recorded off-task during the interval if the "child left the seat, created a verbal distraction, did not look at or write on the worksheet, or touched the partner or partner's materials" (p. 28). The number of time the teacher attended to participating students examined also and recorded when the teacher said something to a student participant regarding math.

There were three observers for this study to calculate interrater reliability. Interrater reliability was computed for the math computations and found to be 100%. Also calculated was interobserver agreement for student on-task and number of times teacher attended to students. Mean scores for interobserver ratings over 35% of the observations were computed (e.g., on-task 89%, off-task 85%, and teacher attention 92%). All students improved their math accuracy, but target students' percentage of accuracy improved greater (e.g., 30%-71% vs. 30%-41%) and improved in time on-task (e.g., 48%-65% vs. 58%-43%).

Broughton (1983) contended this research replicated past research related to verbal and written feedback increasing accuracy and on-task behavior. Further, Broughton suggested that cueing a peer does not affect another person not receiving the praise. He referenced several early research studies showing effects of cues and several attempted replication studies refuting the earlier ones.

Broughton (1983) suggested this study had some limitations. First, the current study was different than a previous study due to the reward (e.g., praise versus free time). Second, Broughton's study used smaller number of children for target groups versus a previous study. Last, Broughton's study used cues during one academic subject in comparison to a previous study that used multiple academic subjects. Other limitations exist. First, Broughton did not reinforce the target child if the child exhibited the appropriate behavior. Jones and Kepner (in press) suggested that praise cues are effective if the target child was given reinforcement once the target child demonstrated the desired behavior. Second, student participants "rushed through the [math] problems" (p. 27). It was not apparent that Broughton knew the learning differences of the students. This could have affected the results. Third, Broughton mentioned scanning the environment to look for on-task behavior, but did not detail the manner in which the scan took place. Fourth, Broughton did not detail the type of forms or how the responses were marked on the forms. This may have contributed to errors in interpretation. Fifth, Broughton indicated that he used duration recording which may not have been the best recording system for the response definitions. Last, Broughton did not have a checklist or other way to insure treatment integrity nor did Broughton gather social validity data.

Martens (1990) conducted a study that examined the effects of contingent teacher attention on appropriate student behavior. Martens measured three teacher variables: "total amount, contingent amount, and the proportion of contingent amount and total amount" (p. 140). Student participants were two children enrolled in public school: One in high school and the other in a summer program targeting low reading skills.

In the first case, the student in high school was 18.5 years and was found eligible to receive special education services as a child with moderate mental retardation. This child also had a history of aggressiveness (e.g., outbursts). This participant received instruction in a classroom with thirteen students, one teacher, and three teacher assistants. One of the assistants was assigned to the participant. A morning "meeting" (p. 141) was conducted with the whole group. The group discussed the previous days' inappropriate behavior. The group evaluated the individual's points for the day (e.g., token economy system). There were eight measures: Two measures of student behavior (on-task and disruption) and six measures of teacher behavior (instruct, praise, reprimand, proximity, attend others, and other contact). Praise was defined as "staff person made a positive statement evaluating the subject's behavior" (p. 142).

The researchers used computers to record the duration of each behavior. There were two rows of keys: One row for student behavior and the second row for teacher behavior. Once a key was pressed a timer began and did not stop until another key was pressed. This student was observed for 216 minutes across 3 weeks. Researchers sat approximately nine feet from the student. A criterion for interobserver agreement 80% or higher or a Pearson Correlation Coefficient of .60, or higher, randomly over 36% of observation sessions.

Overall, results indicated the majority of teacher contingent attention was under proximity. The majority of teacher aide contingent attention was under instruction. Additionally, praise was least used by teacher and aide, one and two percent respectively. A significant relationship between student on-task and contingent teacher attention was found for the teacher ($r = .44$, $p<.05$) and for the aide ($r = .29$, $p<.05$). When examining

the proportion of contingent teacher attention and total teacher attention with time the student remains on-task, Martens suggested this was a better predictor of student time on-task. Also, results indicated that the teacher, when compared to the aide, spent more time attending to the student's time off-task.

In the second case, Martens (1990) examined a six-year-old with delays in reading enrolled in a half-day summer program. The child was not receiving special education services for an identified disability and was educated in a general education classroom. He had performed poorly on an achievement test in reading. There were 10 children assigned to the classroom. All of children were approximately the same age as the selected student.

Observations were conducted for 10-40 minutes. The participant was observed 15 times over a couple of weeks. There were 12 categories of behavior observed; 4 student behaviors (attend materials, attend discussion, peer interaction, off-task) and 8 teacher behaviors (group reading, group instruction, praise, reprimand, interact, attend others, proximity, teacher alone). This student was observed for 322 minutes across 15 sessions, over a two week period. Observational data were collected by research assistants who sat approximately 15 feet from the student.

Interobserver agreement was found over 28% of the sessions. The same observation instruments with the first participant were used for this study. Praise was used minimally (.6%). When it was used, it was given contingent on appropriate behavior. The majority of the student's instruction (teacher attention) was provided when the teacher was presenting a lesson to the whole group. As with the first study, results

indicated that proportional amount of teacher attention on contingent behavior resulted in the highest amount of time on-task.

Some limitations exist with this study. First, the use of two participants limits the generalizability of findings to other populations. Second, when using a single case experimental design, researchers may find it difficult to see differences in a target behavior because of carryover effects. Third, because the researcher did not complete a withdrawal or replication it is unclear whether the results were due to a separate factor that was not part of the study. Fourth, social validity was not addressed. Martens (1990) could have surveyed the teachers, aides, and other staff about the effects of the contingent teacher attention to on-task student behavior. Fifth, the results would be made stronger if they were replicated especially if a multiple baseline design (across settings, across participants) was used. Further, future research needs to gather social validity data by surveying or probing the direct and indirect consumers specifically regarding the effects.

Taylor and Romanczyk (1994) studied how the amount of teacher attention was related to the function of student's problem behavior. The first phase gathered data of teacher-student interaction continuing student's negative behavior. The second phase was used to perform a functional analysis of the student's behavior. Participants included two special education teachers, one speech and language pathologist, and 15 students. Students were enrolled in a university-based preschool center for children with various special education needs. All students were teacher nominated based on attention seeking or task avoidant behavior. The students were aged 3 years to 11 years. The researchers measured how attending to a student ("looked at", "spoke to", "touched", or

"communicated nonverbally") influenced "escape" or "problem" (p. 253) behavior in students.

Phase one's intervention was conducted in a research room designed for individualized instruction. The intervention included using each child's goals and benchmarks from the individualized education plan (IEP). Students were grouped in threes and taken to the research room. There, the students were instructed for 15 minutes each of 5 sessions per day.

Results for phase one Taylor and Romanczyk (1994) found that the function of student behavior was directly linked to the teacher-student interaction. Further, students who exhibited problematic behaviors and were attended to by teachers, their behaviors were maintained either by the attention itself or through escape.

The purpose of phase two was to conduct a functional analysis on the student behavior. Child participants were the same as in phase one but two different adults were used. The adult participants were trained in managing children with behavioral difficulties. A single subject design was used. The students were given two levels of attention for the adults (e.g., more and less) with two levels of difficult tasks (e.g., easy and hard) in various configurations. There were six levels of this intervention. The first level, the teacher did not interact or have the child do any school work. The second level required the teacher to ask to the student to do easy school work. The teacher provided redirection for inappropriate behavior. The third level required the teacher to give the student easy school work. The teacher gave attention to desired behavior and did not attend to undesired behavior. The teacher was permitted to give feedback and demonstrations. The fourth level required the teacher to give the student hard school

work. The teacher did not attend to any desired behavior; rather, the teacher provided redirection for undesired behavior. The fifth level required the teacher to give the student hard school work and provide attention for desired behavior while not attending to undesired behavior. The final level included repeating two of the previous levels (e.g., less and more problem behavior).

The response definitions included on-task behavior and problem behavior. On-task behavior was scored when children were attending to and manipulating materials, reading quietly, on-topic questioning, and compliance to directives. Problem behavior was recorded when not complying with directives, cursing, not remaining in area, and stimulatory behaviors. Interrater agreement data were calculated for student behaviors and ranged from 82%-100% for all of the response definitions.

Student participants 1-5 exhibited high rates of undesired behavior under the teacher ignore conditions. Taylor and Romanczyk (1994) suggested this was because these students needed adult attention. Student participants 6-14 exhibited high rates of undesired behavior under the hard work conditions. Taylor and Romanczyk suggested this was due to the students trying to remove themselves from completing the work. All students exhibited the same levels of undesired behavior during the same conditions in the reassessment procedure.

Methodological problems exist with this study. First, in phase one Taylor and Romanczyk (1994) reported the ranges of their interrater reliability much of which was low (e.g.76.8%, 72%, 78.2%). Second, the specific criteria in which they measured "attention" are a problem as they missed other forms of attention such as proximity, defining nonverbal communication, and cueing other students while trying to get the cued

student to respond. Third, during phase two Taylor and Romanczyk did not discuss one student participant's results. It was unclear as to whether that student responded to the intervention. Fourth, Taylor and Romanczyk did not collect social validity data. This information would have been useful. Fifth, as this was an initial study of teacher-student interaction and its role on maintaining negative or escape behavior, further research needs to be conducted; specifically, the researchers overlooked how proximity may be influential in the student-teacher interaction.

In a pilot study conducted by Lewis and Sugai (1996), a portion of their study included the observation of teacher and peer attention on problem and appropriate behavior. A single student was observed to display inappropriate behaviors to gain both teacher and peer attention across all school settings. During the study, the student was introduced into three different settings: high peer attention plus low teacher attention, low peer attention plus low teacher attention, and high peer attention plus high teacher attention. When comparing the student's on- and off-task behaviors, results indicated when peer attention was high and teacher attention was low, the participant's off-task behaviors were high. Conversely, when attention from the teacher was increased, the participant's on-task behaviors increased. Further, when teacher attention was given frequently for appropriate behavior, the student's appropriate behavior increased. However, when teacher attention was decreased and infrequent and peer attention was available at a more frequent rate, the student displayed inappropriate behavior to gain the attention from peers. The use of interobserver agreement was used and analyzed. Inter-observer agreement was approximately 80% or higher before data were collected. Lewis and Sugai indicated their findings with the "percent of intervals on-task" (p. 8). Although

percent is used as a statistical analysis, it can be difficult to generalize to the population because of its specificity to the situation and it is viewed as a simplistic form of statistical analysis. Further, the use of one subject in an experimental design also makes it difficult to generalize to the population.

Hiralall and Martens (1998) investigated how using direct instruction strategies influenced preschool teacher and child behavior. It was predicted that when teachers used direct instruction with preschool-age children it would result in increased child engagement. Further, it was predicted that teachers would continue to use direct instruction strategies.

Participants included four teachers and fourteen children from a day care setting. Teachers' education and experience were comparable. Teachers were observed during the direct instruction intervention. Each identified preschool classroom had 18-22 children and teachers were asked to identify children who had inappropriate behavior. Teacher identified children were 3 years 8 months to 4 years 10 months. There were two teachers working with four children each and two teachers working with three children each. As cited by Hiralell and Martens the direct instruction strategy developed by Joyce and Showers in 1981 was implemented with small groups of children during a table art activity while the other children assigned to the class were playing in other areas of the room. Components of the direct instruction strategy included specific directions, praise, and redirection with praise.

Hiralell and Martens (1998) used a multiple baseline design across participants with maintenance. Baseline observation and data were collected first. Then, training or script use was implemented. Scripts were used and "counterbalanced" (p. 101) to

compare the differences between using training only with training and script use. Therefore, two teachers were randomly selected to the aforementioned sequence, and two teachers were randomly selected to train via baseline, training with script use, and training alone. There were four phases: Baseline, training only, training and scripts, and maintenance. Definitions, examples, and models were given to the teachers.

During training, teachers were expected to practice the strategies until 100% accuracy. After observations, teachers met with the researchers to refine strategies and provide feedback. Training involved learning the responses definitions (e.g., "mands, praise, redirectives/reprimands, tacts, and modeling", p. 99). When scripts were introduced, teachers used scripts to structure and cue responses toward groups or specific children. Also, the scripts served as a way to provide feedback to the teacher. When the teacher did not use the script as prescribed (e.g., missing a step) the observer indicated the problem on the script observation sheet.

Interobserver agreement was computed for 30% of the observations. Interobserver agreement for all teachers and children behavior was at or above 90%. Treatment integrity was collected for half of the sessions and was implemented as trained (e.g., range = 84%-100% for both phases). Social validity data were gathered for teachers and indicated that the teachers enjoyed the intervention (e.g., range of average scores = 5.1-6.0). Results indicated that the intervention (with and without scripts) made an improvement in both the teacher and child behavior. When teachers employed the training with scripts and without scripts, children increased attention, played appropriately, and remained on-task more often. Teacher behavior did not change between intervention sequences (e.g., ABC, ACB) and child behavior was similar during

maintenance. Teachers' use of the intervention with and without scripts increased and remained stable during maintenance specifically in the areas of "mands, modeling, and praise" (p. 99). However, the two teachers in the ABC sequence initially had an increase in the response definitions which tapered off toward the end of the B phase. Once the scripts were introduced, the teachers increased their use of the response definitions and maintained their level of responding in the follow-up phase.

Hiralell and Martens (1998) concluded that the intervention made an impact with teacher and child behavior. Instruction alone was enough to increase teacher behavior. However, teacher behavior stabilized and maintained after scripts were introduced. Additionally, Hiralell and Martens contend that intervention instruction increased preschool-age children's time on-task, attending, and appropriate play.

Hiralell and Martens (1998) outlined four limitations to this study. First, Hiralell and Martens concluded that teachers from varying preschools should be used. Second, Hiralell and Martens contend that children with and without delays should participate in future studies. Third, different group time should be used to implement the strategies outlined in this study. Fourth, Hiralell and Martens provided teachers with scripts to assist with remembering not only the steps of the intervention sequence but also as a way to provide feedback after the intervention implementation. Fifth, Hiralell and Martens' implemented the strategy separated from the rest of the children. Separating the child participants may have had an impact on the child's appropriate play behavior. Sixth, Hiralell and Martens used continuous recording procedures on five dependent variables and a momentary time sampling procedure for two dependent variables. The behaviors may have been difficult to record.

In a study conducted by Matheson and Shriver (2005) the purpose was to determine if training teachers to use effective praise increased teachers' use of effective commands and students' compliance and academic behaviors. Three general education students (two in second grade and one in fourth grade) were asked to participate and were nominated by their teachers. The participants were not receiving special education services. The participating teachers, three in all, were concerned about students' noncompliant behaviors. The teachers agreed to have the classrooms videotaped. Each had less than five years teaching experience.

Observations regarding initial compliance rates for the student participants revealed below levels of compliant behaviors when compared to randomly selected same-age peers (student participant A 38% compared to average of 2 classmates' 75.5%; student participant B 52% compared to the average of 2 classmates' 91%; and, student participant C 33% compared to average of 2 classmates' 86%). Observations were conducted during student proficient academics: That is, student participants were not noticed to have deficits in the academic area in which they were observed. Observations were conducted during the whole period of instruction in each academic area in which the student participant participated.

Observations were conducted in each child's classroom. Each of the three classrooms had desks arranged in rows. The number of children in each classroom was similar for each participant (e.g., 23, 24, and 27). Teaching methods did not appear different and were similar throughout the observations.

Performance on curriculum based measurement (CBM) was used to gauge the student participant's proficiency level in reading or math. Results indicated that all of the

student participants were proficient in either math performance or reading fluency when compared with their classmates or to published norms.

The dependent variables Matheson and Shriver (2005) measured were student compliance to teacher demands, time the student was engaged in academic related activities, behaviors that interfered with the learning of the student or peers, teacher commands, and teacher praise. Teacher and student participants' behavior was coded via compliance to teacher directives and academic and nonacademic behaviors. Student participants' behavior was recorded using a 15s momentary time-sampling observation system relating to academic or nonacademic responding and noncompliance.

The independent variable consisted of two training sessions with the teacher participants. The first training consisted of delivering effective commands. The second training was combining effective commands with praise. Effective commands were defined as succinct, simple, direct commands that only contained one verb. All other commands with more than one verb were defined as ineffective commands. Further, teacher participants received a form outlining effective and ineffective commands. Teachers were trained in pairs and consisted of providing the teachers with written accounts of the use of ineffective commands. Teachers were asked to change the ineffective commands to effective commands. Further, the teachers and authors viewed the videotapes together while the authors praised the teacher for the use of effective commands. Teachers were asked how to change the ineffective commands into effective commands. Training was approximately 40 minutes. The second training session involved teachers delivering verbal praise when appropriate behavior was exhibited from students and providing verbal praise when students complied with the teacher directive.

Teachers were instructed to deliver directives and commands in the manner to which they were trained recently. Teachers were asked to provide at least 10 verbal praises during an activity, but could do so at any rate. Typical examples of verbal praise included, but were not limited to, "I like the way you are sitting" and [name of student] "is doing a good job" (p. 208). During the session, teachers were asked to recall times when they used verbal praise in response to a typical student's behavior. The authors discussed reasons to provide verbal praise when students were doing what was expected. Teachers and the authors viewed a videotape depicting the teacher's use of verbal praise. The teacher was praised when they used verbal praise. When the teacher did not use verbal praise, the authors trained and demonstrated the use of verbal praise.

Treatment integrity was measured to at least an 80% criterion. If teacher participants use of effective commands or use of effective commands and praise fell below the criterion level in two consecutive days, the teachers were given a written account of what they did correctly and what could improve. Written and verbal feedback was given to the teachers for each observation session and before the next observation session.

Single-subject multiple baseline across participants was used. Baseline data were recorded and stable at three consecutive data points. Once one student participant's behavior remained stable, the authors began training while continuing to record baseline data on the other two student participants. All student participants' behavior was monitored through all three phases of the intervention-baseline, effective commands, and effective commands with verbal praise. The third phase was implemented only when the

effective commands phase data levels were not at a 90% criterion level. Data from all three phases for all three students were taken.

IOA data were collected over 20% of the sessions selected at random. IOA data were calculated to be at a Kappa of .87 for effective directives, ineffective directives, and compliance to directives. Further, IOA data for student behavior was Kappa .90.

Results from this study included percentage of effective teacher commands and rate of praise. According to the authors, all three teachers exhibited more effective commands after training. Teacher A's baseline data trended positively. The intervention was used to continue and stabilize the teacher's percentage of effective commands (e.g., baseline mean = 46.25). This stability was continued through phase one (e.g., phase one mean = 83). Teachers B and C increased the percentage of effective commands and commands with praise (e.g., B's baseline mean = 64, phase one mean = 81.38, phase two mean = 84.75; C's baseline mean = 51.80, phase one mean = 86.5, phase two mean = 92.5). All three teachers responded to training by increasing the percentage of effective commands. As for rate of praise, Teacher A's rate of praise data trended downward after four effective command training sessions (e.g., phase one). Teacher A increased the rate of praise during the last four sessions of phase one and into phase two (baseline rate = .03; phase one rate = .15; phase two rate = .39). Teachers B and C did not increase the use of praise during the effective command training (e.g., phase one; B's baseline rate = .32, phase one rate = .17 *incorrect calculation*; C's baseline rate = .01, phase one rate = .01), but did so minimally when praise was added (e.g., phase two; B's phase two rate = .19; C's phase two rate = .10). All of the teachers needed a few reminder sessions when praise was added.

Additionally, percent of student compliance and percent of intervals the student engaged in academic and nonacademic behaviors were recorded across both treatment conditions. Two of the three students' compliance to teacher directives increased during the effective commands phase and remained relatively stable throughout this phase and the effective commands with praise phase. The third student's compliance to teacher directives when using effective commands was similar to that of the behavior exhibited in the baseline phase. When exposed to third phase of treatment, this student increased compliance to teacher directives but gradually began decreasing the response rate. Regarding academic and nonacademic behaviors, all three students' behavior exhibited an increase in compliance during phase two. An increase of academic levels and decrease of nonacademic levels were both minimal.

Matheson and Shriver (2005) concluded using effective commands and effective commands with praise increased students' compliance and academic behaviors. Further, they concluded that training increased teachers' use of contingent praise (phase two). Additionally, the authors contend that the students tended to engage in academic versus nonacademic behavior.

One of the limitations of this study was there is no description of the duration between observation sessions or training sessions. This may have had an impact on the behavior of the students and teacher participants. A second limitation was in the calculation of the mean frequency of verbal praise during phase two for teacher B. The authors calculated a rate of .17 but the range was .00-.03. A third limitation was that teachers were to verbally praise students whenever they exhibited appropriate behavior, yet the authors did not define appropriate behavior. The teacher participants could have

praised varying levels of appropriate behavior. A fourth limitation of this study was the second phase of intervention (effective commands with praise), the authors did not provide a definition of "*reasons* to praise, *types* of praise, and *benefits* of labeled and unlabeled praise" [emphasis added] (p. 208). Therefore, the definitions may have been different with each teacher participant and it would be difficult to duplicate or extend this research. A fifth limitation to this study was the authors demonstrated praise in phase two but did not model praise in phase two. It may have been clearer to teachers what the authors were targeting when the authors demonstrated praise. This may have skewed the results. Sixth, Matheson and Shriver told the teachers to give at least 10 verbal praises during phase 2, but did not tell them to give a particular amount per minute. Thus, influencing the results. Matheson and Shriver may have limited the study's findings. The seventh limitation, although Matheson and Shriver (2005) suggested it, was that Matheson and Shriver should have collected behavior data on the other children in the classroom to examine the effects of teacher training on the non-targeted students. This may have bolstered the results of their study. The last limitation to this study was that Matheson and Shriver did not collect maintenance data to show if the teachers continued implementing the intervention.

Summary of Literature Related to Contingent Teacher Attention

There have been many studies examining the effect of contingent teacher attention on child behavior. Many studies were in the general education classroom (e.g., Broughton, 1983; Martens, 1990; Hiralell & Martens, 1998; and, Matheson & Shriver, 2005), a few in early childhood special education centers (e.g., Strain & Timm, 1974;

Strain, Shores, and Kerr, 1976; Taylor & Romanczyk, 1994); and one in a day care center (Hiralell & Martens, 1998). Taylor and Romanczyk also reexamined the idea that children will perform for attention or avoidance. None of the cited research studies were conducted in inclusive preschools where typically and atypically developing children received care.

All of the reviewed research suggested an effect between contingent teacher attention and an increase in child engagement, or attention. A decrease in disruptive behavior was also mentioned. Strain et al. (1976) was the only research examining the effect cues (e.g., peer reinforcement) had on shaping the cued child's behavior.

Broughton (1983), Martens (1990), Lewis and Sugai (1996), and Hiralell and Martens (1998) found an increase in time on-task was directly impacted by the amount a teacher attended to the child. Matheson and Shriver (2005) extended this idea and suggested that training teachers to give more explicit directions while using praise contingent on following the directions will produce children being more engaged and increase work productivity.

Summary of Literature Review

The preschool environment should nurture children's socio-emotional growth as well as prepare children for elementary school learning. One way a teacher of preschool children can ensure children are prepared to learn is to structure the preschool environment so children are more engaged. Risely (1986) suggested engagement as a way to encourage preschool child learning. Many researchers contend teacher and peer

attention can reinforce children to become engaged (Martens, 1990; Lewis & Sugai, 1996; and Taylor and Romanczyk, 1994).

McWilliam and Bailey (1995) and Mahoney and Wheeden (1999) agreed that children's engagement with the environment or interaction with peers is key to engagement and learning. These researchers contend that teacher attention and presentation style had a positive effect on child engagement. Conversely, the amount of free play children were allowed to engage in had a deleterious effect on engagement. The idea that preschool-aged children who were typically or atypically developing engaged in the environment similarly (e.g., Brown, Odom, Shouming, and Zercher, 1999) can be countered by other research. Wehby, Dodge, and Valente (1993) found children who were at-risk for disabilities engaged in the environment differently than typically developing peers. Typically children who were at-risk for disabilities tended to play alone, had difficulty being engaged during unstructured activities, and needed adult assistance when interacting with peers (Brown, Odom, Shouming, and Zercher, 1999; Coolahan, Fantuzzo, Mendez, and McDermott, 2000). The ideas of giving children time to respond, providing reinforcement, teaching expectations, and reviewing the expectations is critically important when increasing the level of engagement in children (Malmskog & McDonnell, 1999) or when structuring the preschool environment.

A large body of research was found relating to contingent teacher attention. All of the reviewed research found a positive relationship between contingent teacher attention and child engagement (Strain & Timm, 1974; Strain, Shores, & Kerr, 1976; Broughton, 1983; Taylor & Romanczyk, 1994; Martens, 1990; Hiralell & Martens, 1998; and, Matheson & Shriver, 2005). There has been little research on the use of praise cues (e.g.,

vicarious reinforcement; Strain & Timm, 1974; Strain, Shores, & Kerr, 1976). Similar to Malmskog and McDonnell's (1999) study, Matheson and Shriver (2005) proposed training teachers to tell children the teacher expectations was important. More importantly they suggested training teachers to give children praise contingent on performing the desired expectations.

This study was different from the existing body of literature in several ways. First, this study was conducted in inclusive preschool settings. Second, it provided a specific, observable definition of verbal praise. Third, together with verbal praise, this study measured the use of praise cues and its effect on child engagement. Fourth, this study examined the effectiveness of training teachers of preschoolers. Last, this study extended the idea of Malmskog and McDonnell's (1999) and Matheson and Shriver's (2005) studies as it incorporated verbalizing expectations, restating expectations, and providing reinforcement contingent on the expectations.

CHAPTER 3

METHODOLOGY

Overview

The selective attention strategy incorporates positive reinforcement procedures that involve teachers providing attention contingent on desired child behavior. As teachers attend to children, children are more likely to become engaged in the environment and more likely to learn. This study was developed to examine the use of selective attention strategies among preschool teachers and preschool-age children.

Research Questions

The purpose of the proposed study is twofold. First, the study investigates whether teachers increase their use of verbal praise or praise cue after training teachers to use the selective attention approach. Second, the study examines if implementing the selective attention approach increases the number of preschool-age children engaged in circle time activities.

1. Does training preschool teachers to use selective attention via praise cues or verbal praise increase teachers' use of selective attention?

2. Does the implementation of selective attention increase the number of preschool-aged children engaged in circle time activities?

Participants

Child and teacher participants in this study were from National Association for the Education of Young Children (NAEYC) accredited child development centers (CDCs) located in a large Southwest city. There were two CDCs chosen for this study. The CDCs were chosen due to "convenience" sampling (Keppel & Wickens, 2004, p. 9) and accessibility. Teachers and children participated: One Child Development Center (CDC) was a corporate-sponsored preschool, managed by a large international company; and the other was located at the local university. Both CDCs enrolled children from the community. The university CDC collaborated with a local school district where children at-risk for or experiencing developmental delays were integrated with children who were typically developing. Two preschool classrooms were identified at each site for a total of 4 preschool classrooms (e.g., S1C1, S1C2; S2C1, S2C2), teacher participants (n=4), and the children assigned to their classrooms with parental informed consent (n=52).

Teacher Participants

Teachers worked in pairs in each classroom setting at CDC A and rotated curriculum planning. For example, Teacher Participant One planned curriculum every other week. Teachers at CDC B were solely responsible for curriculum planning in each classroom setting. All teacher participants were at least 16 years-old and possessed a Child Development Associate (CDA) certificate. Teacher participants interacted with children who were between the ages 4 years and 6 years. Children who were 5 years or 6 years were not enrolled in public or private school kindergarten. Teacher participants did not have formal training with the use of the selective attention approach. A review of course syllabi and an informal discussion with faculty revealed that this particular form

of positive reinforcement procedures was not taught at the local universities. Rather, this type of positive reinforcement was based on the positive reinforcement strategies/program used at Re-Ed in Ohio (J. Jones, personal communication, 9/25/01; Jones & Kepner, in press; Cantrell & Cantrell, 2002; Cantrell, Cantrell, Valore, Jones, & Fecser, 1999).

Teacher participants completed a questionnaire regarding their knowledge and experience with selective attention. Teacher participants who had formal selective attention training did not participate in the study. Of the participating teachers, three of the four indicated they "could use more strategies for behavior management" in their classroom. Informed consent was obtained from the participating teachers.

A brief written definition and introduction of positive reinforcement and its effect on behavior was provided to all teacher participants (Appendix A). Teacher participants were asked to participate in approximately18 trainings with the researcher. Only teachers who signed the informed consent were trained (n=4).

Teacher demographics and education background. Information from a demographic survey (Appendix B) revealed that teacher participants' education background varied. Teacher participants possessed a high school diploma (n = 4) and some had completed some college (n = 3). All teacher participants possessed a CDA certificate. All teachers were female. Teacher participant one was 30 years-old and had 6 years preschool experience. Teacher participant two was 34 years-old and had 15 years experience. Teacher participant three was 23 years-old and had 5 years of preschool experience. Teacher participant four was 23 years-old and had 5 years of preschool experience (see Table 1).

Table 1. Teacher Demographics

Participant	Education Level	Gender	Age	Experience
1	HS Diploma, CDA	F	30	6 years
2	HS diploma, some college, CDA	F	34	15 years
3	HS diploma, some college, CDA	F	23	5 years
4	HS diploma, some college, CDA	F	23	5 years

Child Participants

An instructional letter, a parent informed consent, and a developmental history form were sent home with all children in the participating classrooms (see Appendix C). The informed consent form indicated phone numbers that parents could call if they had questions related to the research study. Parent signatures on the informed consent indicated that parents allowed the child to fully participate in the research study.

Informed consent forms, an instructional letter, and a developmental history form were sent home with all children (typically and atypically developing) in each of the four classrooms. The developmental history form included items such as "age when sat up, age when spoke in sentences, age when toilet trained, any concerns with your child's development, concerns about your child's vision or hearing, and concerns about your child having a disability?" (see Appendix C). All parent informed consent and

developmental history forms were collected prior to baseline observation. Information from the developmental history forms revealed child participants on average walked at 12 months, spoke in sentences at 28 months, and were toilet trained at 38 months. Further, parents reported that five child participants were eligible for special education services and three children were suspected of having a disability.

Setting

All preschool sites met state licensure standards and were accredited by NAEYC. According to NAEYC's website, a teacher: child ratio of 1:11 is maintained (NAEYC, 2004). Often, preschool classrooms in NAEYC accredited preschools have up to 22 children with 2 teachers meeting State and NAEYC standards. There can be various teacher and child ratios in one classroom. For example, preschool classrooms may have 1 teacher with 11 children, 2 teachers and 13 children, or 2 teachers with 20 children.

CDC A

Two teacher participants were employed at a corporate-sponsored preschool site run by a large international preschool management company. Typically, the parents of the children who were enrolled at the preschool worked at the sponsoring corporation or in the community. Teachers and children enrolled in two CDC A classrooms (S1C1, S1C2) participated in this study.

Child Development Center (CDC) A provided services to 205 children. CDC A worked with community-based and school district programs to provide special education services or outreach to children who were suspected of having developmental delays. CDC A provided full-time services to children who were 6 weeks through 70 months.

Child care services to children older than 70 months were provided at the CDC on a "drop –in" basis only. These children were not formally enrolled at the center.

An electronic combination lock was needed to gain access into CDC A. Administrative offices were immediately inside the doors. A computer code allowed parents to electronically check children into the center. Additionally, administration at CDC A requested parents to initial time sheets on a clipboard hung by the door of each classroom when parents dropped-off and picked-up children.

The center was square shaped. There were three infant classrooms (6 weeks through 12 months), three toddler classrooms (12 months through 24 months), three transition classrooms (24 months through 36 months), four preschool classrooms (36 months through 60 months), and one kindergarten classroom (60 months through 72 months). The preschool classrooms were located the furthest from the entrance and within close proximity to the playground. All of the preschool classrooms were located within the same hallway. At maximum, 22 children were assigned to each preschool classroom.

Child Development Center (CDC) A's daily routine began with center-provided breakfast. When the children were done, they were instructed to move to "circle" and read a book. As soon as all of the children were in the circle, one of the teachers conducted the circle time procedures. Circle time procedures involved reading a book to the children, discussing themes from which the children would like to learn, and introducing activities available at the tables and other areas of the classroom. When circle time was completed, children were expected to sit quietly and wait for the teacher to call-out child names. When the name was stated, the child was directed to move their printed

name from a selection of names on a board, to one of three Velcro spots under the activities available. All activities were limited to six children.

CDC B

Two teacher participants were employed by the local university (CDC B). Child participants who were enrolled at CDC B were children of the university staff, children of students who attended the university, and community children (S2C1, S2C2). Further, the university preschool worked collaboratively with the local school district and included preschool children with developmental delays in their classrooms. Special education teachers and paraprofessionals from the local school district were assigned to the university preschool and provided services within the classroom setting. Preschoolers with and without delays received a portion of their instruction from a certified teacher of special education.

Child Development Center (CDC) B provided services to 251 children. A total of 16 children were identified with developmental delays. CDC B provided services to children who were 6 weeks through 66 months of age. Visitors to CDC B input a code into an electronic combination lock to gain access into the CDC. Administrative offices were located immediately inside the doors and in an adjacent building. A computer was located at the desk immediately inside the door. The computer had a program that enabled parents to electronically check-in children to the center via a code. Additionally, administration at CDC B requested parents to initial time sheets on a clipboard hung by the door of each classroom when parents dropped-off and picked-up children.

Child Development Center (CDC) B had five separate buildings inside the gated entrance situated in a rectangular shape with common grass and playground areas in the

center. There were two infant classrooms (6 weeks through 12 months), two toddler classrooms (12 months through 24 months), two transition classrooms (24 months through 36 months), and four preschool classrooms (36 months through 66 months). All of the classrooms shared areas within the building (e.g., bathrooms, changing areas, cubbies, etc.). Access to the preschool buildings required the researcher to walk outside and enter through glass doors. The two preschool classrooms used in this study were located the furthest from the entrance and in one building. A common area filled with child cubbies was shared between the two classrooms. Each classroom had a glass door to use to enter the classroom. At maximum, 22 children attended each preschool classroom.

Child Development Center (CDC) B's daily routine began with outside time. Children played outside until 9 a.m. when a teacher gave a prompt to go inside (e.g., sang a song). Children formed a line underneath a shaded area. One of the lead teachers stood in front of the line sang. When all of the children formed the line, the class proceeded inside and sat in circle. Circle time was adjacent to the windowed garage doors. Small bookcases and shelving units outlined the circle area. A preschool teacher sat in a chair that faced the garage door. Children sat on a large carpet on the floor. Children were instructed to sit on their bottoms after which the class began singing songs. The teacher participant read a picture book to the children. After about ten minutes, the teacher participant explained what was available at each of the activity tables. The teacher participant dismissed the children to select table activities. All activities were limited to four children.

Materials and Equipment

Materials included in this study were teacher participant questionnaires to gain insight into each teacher's knowledge and use of positive reinforcement and selective attention (see Appendix D); introduction and definition of positive reinforcement for teacher participants (see Appendix A); adapted Placheck forms (Doke & Risely, 1974; Tawney & Gast, 1984; McGraw-Hill, 2005, see Appendix E); teacher observation frequency data forms (see Appendix F); teacher and parent social validity scales (see Appendix G); teacher education questionnaire (see Appendix B); parent questionnaire regarding child development (see Appendix C); treatment integrity checklist (see Appendix H); iPod with momentary time sampling audio prompts; video cameras; VHS tapes; 8 mm tapes; TV/VCR combinations; extension cords; whiteboards; and, dry erase markers. The adapted Placheck systematic observation system forms were used to observe child engagement. Placheck required the researcher to systematically scan the videotaped preschool classroom environment every two minutes and count the number of children engaged in circle time activities. The audio recording on the iPod provided the researcher with audio prompts to scan the environment at two minute intervals and to record child engagement. The video camera was used to record each circle time observation session and intervention sessions.

Baseline & Training

Teacher participants in CDC A started circle time every day at 9 a.m. while teacher participants in CDC B began circle time at 2 p.m. Baseline data were recorded daily for three consecutive days or until a stable set of responses were observed. Training

occurred after baseline data were completed. When teacher participants began training sessions, circle time observations were completed during the same circle time as in baseline. The teacher who signed the informed consent or lead teacher in each classroom was individually trained. Training included up to 18 sessions; 5 sessions per week. Training was done the following day but before the next observation. For example, teacher participant one's observation was March 21st at 9 a.m. On March 22nd; teacher participant one was trained before 9 a.m.

CDC A implemented *team teaching* where two teachers alternated planning for and implementing circle time activities. When the participating teacher alternated off planning, she was instructed to sit in circle with the children. During the intervention phase, each teacher participant was instructed to infuse the strategy during the co-teacher's circle. CDC B's participating teachers were solely responsible for planning and implementing circle time.

During training, the participating teacher and researcher viewed the tape. Line graphs depicting the teacher participant's daily use of verbal praise and praise cue performance were generated and reviewed by the researcher and teacher participant. Inputting raw data into a line graph made it easier for the teacher participants to interpret and analyze performance (Gast & Tawney, 1984). The video tape was used to demonstrate real-life opportunities when the teacher participant was able to use selective attention. Teacher participant training consisted of teaching the response definitions, practicing the response definitions, and implementing the responses. The use of prompt fading, schedules of reinforcement, or changing to another condition were not implemented in this study.

Response Definitions

Student *engagement* in activities was recorded when the child was attending to and manipulating materials; eyes were toward the teacher participant; participating in circle sing-a-longs while looking at the teacher participant; or, speaking with peers during play (Malmskog & McDonnell, 1999). Engagement in activities in circle was not recorded when the child was manipulating materials but not attending to the materials; eyes toward teacher participant during but talking to peer; talking to peer during teacher speaking; eyes not toward teacher but remaining quiet; or, speaking with peers during teacher speaking time.

Verbal praise (Jones & Kepner, in press) was defined as a teacher's verbalization directed toward the child and contained the child's name and brief description of the behavior (e.g., Michael is getting started, Tom is lining up, etc.). Verbal praise was not verbalizations saying "great job" or "I like the way...".

Praise cue (Jones & Kepner, in press) was defined as verbal praise directed toward a peer, the target child responded to the cue and performed what was expected, and the teacher provided verbal praise to the identified child. Praise cue was not defined as verbal praise directed toward a peer and identified child did not respond, directly praising the child, or moving within the proximity of the child.

Recording procedures involved frequency recording of the observed teacher response definitions by making a mark in the appropriate space on the frequency recording paper. Observations of the child participants were completed using the Placheck observation system (Doke & Risely, 1974; Tawney & Gast, 1984; McGraw-Hill, 2005). Recording procedures for child engagement included counting the number of

children engaged in the circle time procedures and writing the numeral in the appropriate space on the Placheck form. The response definitions were recorded during all observations when participating children or teachers exhibited the aforementioned target behaviors.

Baseline Procedures

According to Tawney and Gast (1984), baseline data were essential to determine an intervention successful. Data were needed to examine participants' levels of responding with the definitions before an intervention was applied. Once the intervention was applied, the change in participants' responding was most likely due to the intervention. Thus, an effect of the intervention could be deduced (Keppel & Wickens, 2004).

For the purposes of this study, baseline procedures served two purposes. First, baseline data were needed to record the number of teacher verbal praises and praise cues given to children engaged in activities during circle time. Teacher observation data were collected using the frequency count data sheets. Data were collected when the researcher or research assistant whispered "begin" in the video camera's microphone or when the teacher began circle time activities. Enough data were collected to see stability in the data upon visual inspection. Second, baseline data were needed to record the number of children engaged during circle time. Observational data were recorded using the Placheck systematic observation procedure. This procedure occurred daily for the entire circle time or 15-minutes, whichever was less.

During baseline a video tape labeled with each teacher participant's code was placed into the video camera prior to taping. Approximately 10 minutes before circle time

began, the video equipment was set-up. The video camera was mounted to a tripod. The tripod was fully extended to keep it safely behind furniture while filming the children. An extension cord was used to access electricity. The video camera was facing east in teacher participant one's and teacher participant four's classroom, south in the classroom of teacher participant two, and northeast in the classroom of teacher participant three. The video camera was turned on to ensure power was available. A whiteboard with the participant's code, baseline or intervention number, and date was recorded prior to filming circle time. The *record* button was pressed when the children entered circle time. Once circle time began, the researcher or research assistant whispered "begin" into the microphone of the video camera. The observation was completed and the video camera was turned off when a child selected an activity table to go to or when another event occurred (e.g., cooking instruction, dancing instruction, etc.).

The researcher collected the video cameras, extension cords, and whiteboards and moved into an available room where a TV/VCR combination was used to transfer the 8 mm videotapes to a VHS tape. The video cameras with attached tripod were unfolded. The transfer cord was plugged into each video camera and one was plugged into the TV/VCR. The electrical cords were plugged into sockets and the *rewind* button was pressed. The videotape identified with the participant's code was placed in the VCR. A Dell Inspiron 8600 was used to identify the time and the time was then written on the teacher observation form. The researcher pressed the *record* button on the TV/VCR and then pressed the *play* button on the video camera.

When the researcher heard the "begin" prompt, the begin time was noted on the teacher observation form. While the video transferred to the VHS tape, teacher

observation data were collected. A plus (+) sign was written in either the verbal praise of praise cue box when the researcher heard the teacher participant use them. When circle time was complete and one child left the circle, the end time was noted on the record form. An Excel spreadsheet was opened and each teacher participant's verbal praise plus praise cue data were entered. The spreadsheet was linked to an Excel generated graph, was saved, and printed before the next day's data collection. The researcher did not meet with the teacher participant to view the video during baseline.

The researcher viewed each teacher participant's video and collected data on child engagement daily. Each video was inserted into a VCR. An iPod loaded with an audio cue (e.g., momentary time sampling) was used. When the teacher began circle time or when the researcher heard the "begin" prompt on the VHS tape, the play button on the iPod was pressed. When pressed, the audio cue "begin the session now" was heard. At two-minute intervals the audio cue "begin observation" was heard and 15-seconds later "record now". This continued through the entire 15 minute observation. At the end of 15-minutes "end the session now" was heard. The number of child engagement intervals varied depending on the length of circle time. For example, when the circle time was 15-mintues 7 intervals of child engagement were recorded. If circle time was less than 15-minutes, fewer child engagement intervals were recorded.

Although 52 children were permitted to participate in the study, only 6 or fewer were counted in each classroom during each observation. Teacher participant one's and Two's class sat in a circle. These participants kept all participating children to the right of the teacher and facing the camera. Children in teacher participant three's and four's classroom sat in rows. In these classrooms, children closest to the teacher were counted.

Intervention Procedures

Multiple dependent variables were measured. One dependent variable was the teacher participant's use of selective attention (e.g., verbal praise and praise cue). Another dependent variable was the number of preschool-aged children engaged in circle time activities. Intervention meetings occurred before the day's circle time observation (e.g., 8:00 a.m. or 1:00 p.m.). The researcher and teacher participant reviewed the line graphs and videotape during the intervention meeting. Intervention meetings had multiple purposes. First, the researcher introduced the selective attention approach. Second, the researcher defined verbal praise and praise cues to the participating teacher participant. Third, the researcher showed the line graph to the participating teacher participant. Last, the researcher and teacher participant practiced using selective attention.

Teacher Training. A new tape was inserted into the camera. The tape was marked with the teacher participant's name and date. The video camera was situated to record the researcher and teacher participant training. When training began, the record buttons were pressed to record the training.

During training, the selective attention approach, response definitions, video tape, and line graphs were reviewed by the researcher and teacher participant. There were four big ideas to selective attention: defined teacher expectations, introduced the point of order, introduced the procedure review, and introduced verbal praise and praise cue techniques. The first idea required the teacher participant to state circle time expectations for children. For example, all teacher participants stated they wanted children to sit on their bottom, remain quiet while the teacher was talking, and raise a hand if the child wanted to participate in circle time; though, each teacher participant had different ways of

stating the expectations to the children. The researcher and teacher participant worked together to ensure the expectations were specific.

The second idea was the point of order. Teacher participants were instructed to follow the six steps in the point of order. First, when the children were assembled for circle time, the teacher participant was expected to get the attention of the children and state the expectations to the group before continuing circle time activities. Second, the teacher participant was expected to tell the children that three children would be selected to restate the expectations to the group. Third, the teacher participant was expected to tell the children to think about the procedures for 10 seconds. Fourth, the teacher participant was expected to verbally praise the first two children who demonstrated the expectations. Fifth, the teacher participant was expected to ask three children to restate one procedure to the group. Sixth, the participant was expected to begin circle time.

The third idea to the selective attention approach was the procedure review. The teacher participant was instructed to use a procedure review when there were more than two children violating the circle time expectations. First, the teacher participant was to stop circle time; tell the children to sit quietly; and, follow the steps in the point of order.

The fourth theme to the selective attention approach was the use of verbal praise and praise cue. A verbal praise was used immediately after the first two children demonstrated appropriate behavior as it related to the circle time expectations. Verbal praise statements consisted of the name of the child and the behavior (e.g., Johnny is sitting on his bottom). A praise cue was used when a child was violating the expectations. For example, the teacher participant was instructed to give a verbal praise statement to a child exhibiting the circle time expectations while trying to cue the child who was

violating the expected behavior. Once the violator demonstrated the circle time expectations, the teacher participant was instructed to give verbal praise to the violator. Though, if after two attempts of praise cues were given to the violator and the child never exhibited the desired behavior, a procedure violation review was done with the violator. The teacher participant was instructed to have the violator come to the teacher participant and say, "The expectation for circle time is for you to sit on your bottom". When the child returned to circle and demonstrated the expectation, the teacher participant was instructed to give the child a verbal praise.

After the response definitions were reviewed, the line graphs were examined. These data depicted the total number of verbal praise and praise cues the teacher participant used during the observation period. Over time, the frequency data were expected to show improvement in the teacher participant's use of verbal praise and praise cue. Last, the researcher and teacher participant viewed the observation tape.

The video tape was inserted into the VCR so that the observation recording was viewed on the television monitor. The play button on the VCR was pressed. When the recorded observation began playing on the monitor, the VCR stop button was pressed and the researcher and teacher participant reviewed the components of selective attention, point of order, and procedure review.

Teacher participants were trained on how to implement the selective attention approach. The notion of "point of order" (Jones & Kepner, in press, p. 14) is the most important component to selective attention. The teacher participant was instructed to give a direction (e.g., "go sit in circle"). The teacher participant was told to state the circle time procedures to the children, the children were expected to sit quietly in circle for 10

seconds, and three children were expected to restate the circle time procedures after the 10 second reflection period ended. During these 10 seconds, children were expected to reflect upon the circle time procedures. The teacher participant was instructed to verbally praise the first two children who sat quietly using the verbal praise instruction. The teacher participant was told to randomly select three children to restate the circle time procedures then circle time procedures began.

When more than two children exhibited undesired behavior, the procedure review was completed. Jones and Kepner (in press) describe the procedure review as a time when it was important to stop the activity because learning was not taking place. The teacher participant was instructed to discontinue the circle time procedures, tell children to sit quietly, and follow the steps in "point of order" (p. 14).

Training teacher participants on two components of positive reinforcement (e.g., verbal praise and praise cue) was another step in preparing teachers to use the selective attention approach. First, Jones and Kepner (in press) indicated that verbal praise should be used immediately after a desired behavior was exhibited by a child. Verbal praise was defined as a time to state the name of a child and the desired behavior (e.g., "[name of child] is sitting on their bottom"). When using verbal praise, the teacher participant should convey excitement about the behavior through voice inflection. Also, verbal praise should be given to the first two children exhibiting the desired behavior. This promotes a "sense of urgency" (p. 14). More children will want to exhibit the desired behavior to gain the positive reinforcement (Jones & Kepner, in press). Second, Jones and Kepner (in press) indicated to use praise cues when children were not exhibiting desired behavior. The teacher participant selected a child who was exhibiting desired

behavior and used verbal praise. If the target child exhibited the desired behavior, the teacher participant was instructed to give verbal praise to the target child. If after two praise cues the target child did not demonstrate desired behavior, the teacher participant was told to review the procedure the child is violating (e.g., "The procedure for circle time is to sit on your bottom").

The researcher and teacher participant practiced using the *point of order, verbal praise, praise cue,* and *procedure review*. The teacher participant was instructed to use the behavior intervention established in the classroom if the selective attention approach was unsuccessful. After which, the teacher participant returned to the classroom to begin circle time activities.

Experimental Design

A multiple baseline design across participants (e.g., A-B design) was used in this study. This design is best used when there are multiple participants exposed to similar settings and responding similarly (Tawney & Gast, 1984). Also, the multiple baseline across participants is best when the intervention can not be withdrawn from participants. Participant performance during baseline and training phases, when compared to others in the study, may show a strong functional relationship; especially when most of the subjects respond similarly to the training (Barlow & Hersen, 1984).

Child engagement data from each day's observation were entered into an Excel spreadsheet. The Excel spreadsheet generated a line graph based on the total number of children, number of children who were engaged during each interval, and number of intervals. The line graph was used because it was easier to visually inspect the data for

trend, slope, and stability. The data were visually inspected for change in slope and trend to determine significance (Barlow & Hersen, 1984;Tawney & Gast, 1984).

Video recordings during meetings with the teacher participant were used to establish reliability. Interobserver agreement was recorded using a pre-made observational checklist (Appendix H). The checklist consisted of a scripted lesson with terminology, and definitions that were to be used during the training sessions. The researcher trained the research assistant before the research assistant viewed the video tapes. Intervention sessions included using the pre-made treatment integrity observational checklist as a script. Training continued until the observers reached a 90% interobserver agreement. All training sessions were video taped and 30% of teacher participant training sessions were randomly selected for interobserver agreement sessions. Interobserver agreement was calculated using the "smaller amount correct divided by the larger amount correct multiplied by 100" (Hartman, 1984, p. 126 - 127). The minimally acceptable level for interobserver agreement during treatment integrity was 80%.

Observers were trained prior to baseline data collection. Reliability observations were not completed until the researcher and research assistant obtained an interobserver agreement of at least 80%. Reliability of observations was found by interobserver agreement of 80% over 30% of observations across all teacher and child participants. Interobserver agreement for each of the teacher participant response definitions was calculated by "the smaller number divided by the larger number multiplied by 100." (Hartman, 1984, p. 126 - 127). Interobserver agreement for child engagement was calculated via "agreements divided by agreements plus disagreements multiplied by 100" (Tawney & Gast, 1984, p. 139).

Social Validity

Social validity measures were used to measure the outcomes of the intervention. Specifically, social validity was used to determine if teacher participants found selective attention useful, if teacher participants would continue to use selective attention procedures, and if teacher participants believed using selective attention increased child engagement in circle time procedures. A 3-point Likert scale and written responses from a questionnaire were collected. The responses from the Likert scale were averaged and can be found in Chapter Four (see Table 7, p. 95). The written responses served as qualitative responses and extended the aggregated data. Each participating teacher was asked to complete a questionnaire regarding the benefits of selective attention training (see Appendix G). For example, some of the questions asked if teacher participants were satisfied with their overall experience with training, if training was useful, and if they would continue to use selective attention.

All parents were asked to complete a questionnaire regarding the benefits of selective attention and its effect on children (see Appendix G). Parents were asked about their perception of selective attention on their child's number of incident reports, satisfaction of the preschool experience, and child attention. For example, some of the questions on the questionnaire asked parents if they noticed a difference in their child's number of incident reports, if parents were more satisfied with the preschool as it related to the teacher participants' training of selective attention, and if the child exhibited an increase response to parent requests. The means of each class related to parent perception of treatment effect can be found in Table 8 (p. 96)

Treatment of Data

Rate of responses, percentage, line graphs, and data collected from the Placheck forms from both baseline and intervention observations were used to answer the following research questions:

Research Question 1: Does training preschool teachers to use selective attention via verbal praise and praise cues increase teachers' use of selective attention?

Analysis: A significant difference between baseline and intervention phases when examining teacher behavior would provide evidence for training preschool teachers to use selective attention. Additionally, examining the relationship between teacher behavior and its effect on child engagement influences the importance of selective attention.

To determine if there was a significant difference, rate data for each response definition from baseline and intervention phases were collected for each teacher. Data were entered into an Excel spreadsheet and a line graph was generated. The line graph enabled the researcher to determine when teacher responses showed stability and trend. Most importantly, visual analysis of baseline and intervention data enabled the researcher to determine if the intervention was effective (Tawney & Gast, 1984). Visual analysis is the most common analysis in applied settings (Tawney & Gast, 1984; Barlow & Hersen, 1984).

Research Question 2: Does implementation of selective attention increase the number of preschool-aged children engaged in circle time activities?

Analysis: A significant difference between baseline and intervention phases when examining child engagement would provide evidence for training preschool teachers to

use selective attention and implementing selective attention procedures in the preschool setting. Additionally, examining the relationship between child engagement and teacher use of selective attention influences the importance of implementing selective attention in preschool classrooms. To determine if there was a significant difference, Placheck data from baseline and intervention phases were collected for each classroom daily. Data were entered into an Excel spreadsheet and a line graph was generated. The line graph enabled the researcher to visually analyze the baseline and intervention data to determine if the intervention was effective (Tawney & Gast, 1984). Visual analysis is the most common analysis in applied settings (Tawney & Gast, 1984; Barlow & Hersen, 1984).

CHAPTER 4

RESULTS

The purpose of this chapter is to describe the results of the study. First, data from each teacher participant are presented. Second, the results from each classroom of children are outlined. Third, interobserver agreement data are discussed. Fourth, treatment integrity data are presented. Last, social validity data from teachers and parents are examined.

Interobserver Agreement

One research assistant collected interobserver agreement data for teacher and child participants on the dependent variables. Total mean interobserver agreement for verbal praise and praise cue was 89% and 96%, respectively. Mean interobserver agreement for child engagement was 80% (see Table 2).

Interobserver agreement for teacher participant one was randomly selected over 32% of baseline and intervention sessions. Teacher participant one's interobserver agreement for baseline on the teacher dependent variables was 100% and for child engagement was 80%. Interobserver agreement during intervention revealed a mean of 88% for verbal praise (range 67%-94%), 95% praise cue (range 75%-100%), and 90.5% child engagement (range 60%-100%). Interobserver agreement for teacher participant two was randomly selected over 42% of baseline and training sessions. Teacher

participant two's interobserver agreement on both the teacher dependent variables during baseline was 100% and for child engagement was 95% (range 86%-100%). Interobserver agreement during intervention revealed a mean of 84% for verbal praise (range 50% - 100%), 96% praise cue (range 71% - 100%), and 88% child engagement (range 75% - 100%).

Interobserver agreement for teacher participant three was randomly selected over 32% of the baseline and intervention sessions. Teacher participant three's interobserver agreement on the teacher dependent variables during baseline was 100% and for child engagement was 100%. Interobserver agreement during intervention revealed a mean of 85% for verbal praise (range 50%-100%), 100% praise cue, and 89% child engagement (range 67%-100%). Interobserver agreement for teacher participant four was randomly selected over 32% of the baseline and intervention sessions. Teacher participant four's interobserver agreement on the teacher dependent variables during baseline was 100% and for child engagement was 97% (range 80%-100%). Interobserver agreement during intervention revealed a mean of 71% for verbal praise (range 53%-93%), 68% praise cue (range 25% - 100%), and 91% child engagement (range 71%-100%).

Treatment Integrity

Individual teacher participant intervention meetings were held each day when teacher participants were on the preschool campuses. All intervention meetings with each teacher participant were videotaped. Thirty-two percent of the intervention meetings were randomly selected and used to calculate interobserver agreement data for the teacher

participants. Analysis of treatment integrity revealed an overall mean interobserver agreement percentage of 98.3 (see Table 3).

Table 2. Mean Percent and Range of Interobserver Agreement for Baseline and Intervention

	Verbal Praise	Range	Praise Cue	Range	Child Engagement	Range
TP 1	90	67-100	96	75-100	89	60-100
TP 2	89	50-100	98	75-100	90	71-100
TP 3	90	50-100	100	100-100	92	67-100
TP 4	86	53-100	84	25-100	94	71-100
Mean	88.3		94.2		91.6	

Table 3. Mean Percentage and Range of Treatment Integrity

	Mean	Range
Teacher 1	95.3	92.3 – 97.4
Teacher 2	98.3	92.3 – 100
Teacher 3	100	100
Teacher 4	99.4	97.4 – 100
Mean	98	

Multiple Baseline Results for Teacher Participants

Data from the single subject multiple baseline across participants (AB) were used to determine if training had a significant effect on teacher and child behavior. First, the data were used to analyze research question:

1. Does training preschool teachers to use selective attention via verbal praise or praise cues increase teachers' use of selective attention?

Teacher participants

Teacher participant one. Teacher participant one was located in S1C1. Her data are displayed in Figure 1. Baseline data were collected for four days to determine teacher one's natural response rate as it related to the response definitions. Data from four baseline data points indicated that teacher participant one did not demonstrate either of the dependent variables (e.g., verbal praise or praise cue) as defined by the response definitions. Once training started, teacher participant one and the researcher discussed the teacher expectations for circle time. For example, teacher participant one stated her expectations were for the children to "sit on their bottoms with legs folded, raise their hands if they wanted to speak, and whisper to their friends." Training was implemented with teacher participant one for a period of 18 days. An increase between the baseline and intervention phases was seen, via visual inspection, on both of the dependent variables. However, the rate of verbal praise was higher than the rate of praise cues. Teacher participant one had a one week break from teaching April 10 through April 14. Upon return teacher participant one continued to demonstrate a similar response rate for both dependent variables as she did before the break. Upon visual inspection, teacher participant one never achieved stability in the rate of responses on either of the dependent

variables, but had an overall higher rate of responses toward the end of the study (see Figure 1). Overall, teacher participant one's mean rate per minute of verbal praise was 1.23 and verbal praise range .18-1.80 while the mean rate per minute of praise cue was .28 and range was .06 -.59 (see Table 4).

Teacher participant two. Teacher participant two was located in S1C2. Her data are presented in Figure 2. Baseline data were collected for six days to determine teacher two's natural response rate as it related to the response definitions. Data from six baseline data points indicated that teacher participant two did not demonstrate either of the dependent variables (e.g., verbal praise or praise cue) as defined by the response definitions. Once training started, teacher participant two and the researcher discussed her expectations for circle time. For example, teacher participant two stated her expectations were for children to "sit on their bottoms with their legs folded, raise their hand to speak, and keep their hands to themselves". Training was implemented with teacher participant two for a period of 18 days. An increase between the baseline and intervention phases was seen, via visual inspection, on both of the dependent variables. A small change was seen between baseline and training for praise cue, though the change was not significant. Further, teacher participant two demonstrated a lower rate of praise cues than rate of verbal praise. Teacher participant two had a two-day break during the baseline phase and a one-day break during training. Upon return, teacher participant two appeared to respond similarly than before the breaks. Upon visual inspection, teacher participant two had stability in the fifth week of the study, but had difficulty maintaining the rate per minute of verbal praise. Teacher participant two maintained the rate per minute of praise cue during the last week of data collection (see Figure 1). Overall, teacher participant two's

mean rate per minute of verbal praise was .84 and verbal praise range .00-1.47 while the mean rate per minute of praise cue was .08 and range was .00-.30 (see Table 4).

Teacher participant three. Teacher participant three was located in S2C1. Her data are presented in Figure 1. Baseline data were collected for nine days prior to initiating training to determine teacher three's natural response rate as it related to the response definitions. Data from nine baseline data points indicated that teacher participant three did not demonstrate either of the dependent variables (e.g., verbal praise or praise cue) as defined by the response definitions. Once training started, teacher participant three and the researcher discussed her expectations during circle. For example, teacher participant three stated she expected the children to "sit on their bottoms and raise their hand if they wanted to talk". Training was implemented with teacher participant three for a period of 16 days. An increase between the baseline and intervention phases was seen, via visual inspection, for verbal praise but not for praise cue. There was no change between baseline and intervention for praise cue. Teacher participant three had a one-day break during the baseline phase and a one-day break during training. Teacher participant three had difficulty maintaining the rate per minute of verbal praise throughout the training phase and never achieved stability (see Figure 1). Overall, teacher participant three's mean rate per minute of verbal praise was 1.27 and verbal praise range .00-2.42 while the mean rate per minute of praise cue was .00 (see Table 4).

Teacher participant four. Teacher participant four was located in S2C2. Her data are presented in Figure 1. Baseline data were collected for 13 days prior to initiating training to determine teacher participant four's natural response rate as it related to the

response definitions. Data from 13 baseline data points indicated that teacher participant four did not demonstrate either of the dependent variables (e.g., verbal praise or praise cue) as defined by the response definitions. Once training started, teacher participant four and the researcher discussed her expectations during circle. For example, teacher participant four stated that she expected the children to "sit on their bottoms and face her, listen to the friend or the teacher that was talking, and raise their hand if they wanted to speak." Training was implemented with teacher participant four for a period of 12 days. An increase between the baseline and training phases was seen, via visual inspection, on both of the dependent variables. However, teacher participant four's rate of verbal praise was higher than praise cue.

Teacher participant four had two one-day breaks during the last week of the intervention phase due to illness. Teacher participant four was able to achieve stability in both verbal praise and praise cues with the exception of the last data point (see Figure 1). Overall, teacher participant's mean rate per minute of verbal praise was 1.20 and range was .71-2.07 while the mean rate per minute of praise cue was .33 and range was .13-.67 (see Table 4).

Group comparison

Table 4 shows a mean comparison of rates of verbal praise and praise cues for all four teacher participants. Generally, all teachers showed an increase in using verbal praise. Teacher participants one and four showed the most consistent use of verbal praise. Teacher participant two showed an increase in the use of verbal praise but became inconsistent the last week of training. Teacher participant three was the most inconsistent and demonstrated significant variation in responses. Teachers' use of praise cues was

inconsistent across participants. For example, teacher participants one and four showed an increase in the use of praise cues. Teacher participant two increased the use of praise cues but to a lesser degree than participants one and four. Teacher participant three did not use praise cues. Teacher participant four was the only one to use praise cues consistently as was seen in her data (see Figure 1).

Table 4. Mean Rate per Minute of Verbal Praise and Praise Cue during Baseline and Intervention for Teacher Participants

Participant	Baseline VP/PC	Intervention VP	Range	Intervention PC	Range
1	0.00	1.23	.18 – 1.80	.28	.06 - .59
2	0.00	.84	.00 – 1.47	.08	.00 - .30
3	0.00	1.27	.00 – 2.42	.00	.00 - .00
4	0.00	1.20	.71 – 2.07	.33	.13 - .67

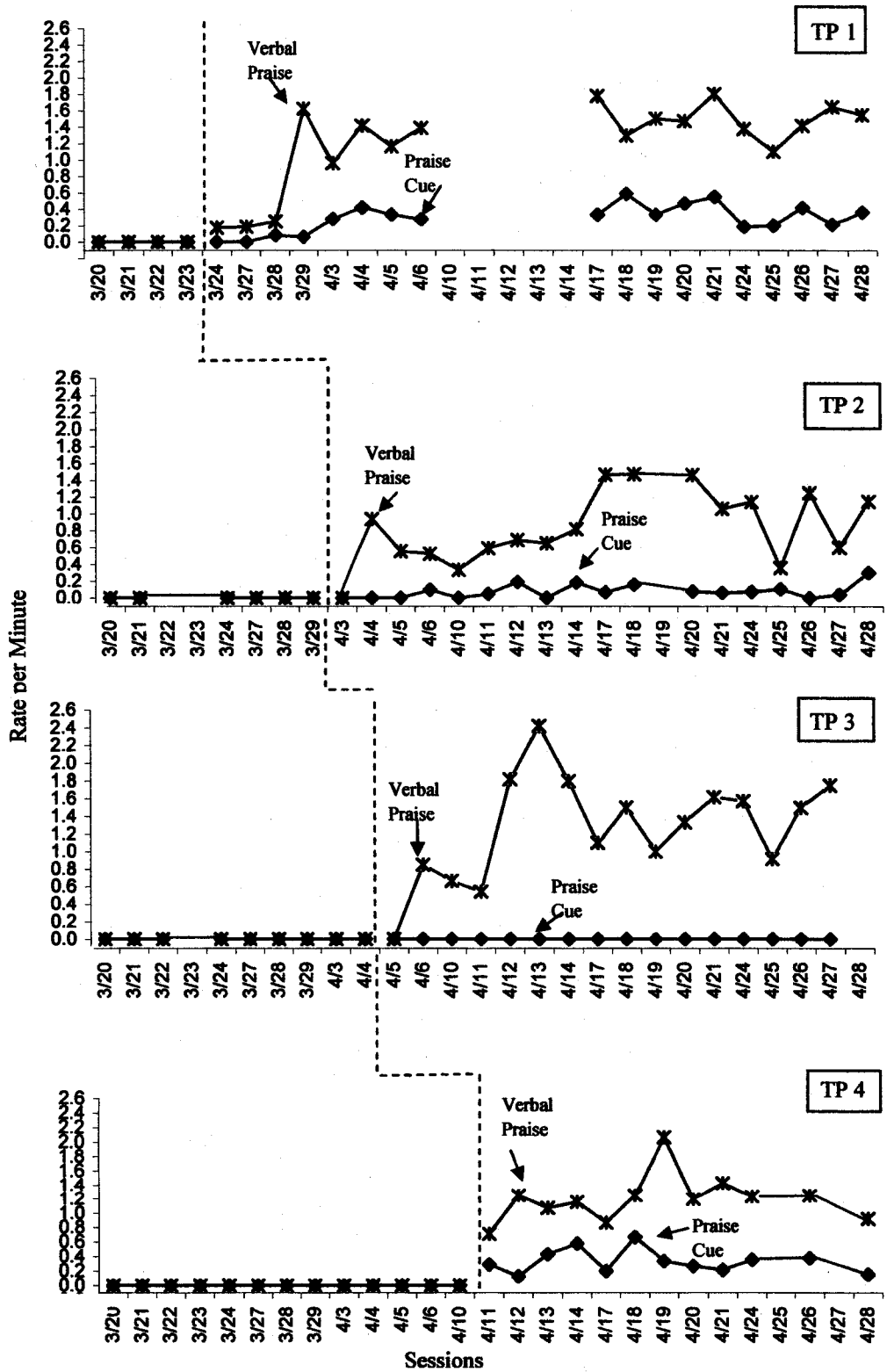
Multiple Baseline Results for Child Participants

Child participants

Data from baseline and intervention were collected on child participants (e.g., S1C1, S1C2; S2C1, S2C2) to analyze research question and are presented in Figure 2:

2. Does the implementation of selective attention increase the number of preschool-aged children engaged in circle time activities?

Figure 1. Teacher Response Rate per Minute across Baseline and Intervention



S1C1. Data between baseline and intervention in S1C1, where teacher participant one was located, was variable and did not display stability. Therefore, a functional relationship between interventnion and child engagement was not demonstrated. Teacher implementation of selective attention did not have an effect on child engagement (Figure 2). However, data from 4/21 through 4/24 were less variable.

An examination of the computed means between baseline and intervention was completed. On average, 30% of child participants were engaged during circle time activities during baseline while 47% of child participants were engaged during intervention (see Table 5). Selective Attention training did not have an effect on the percentage of child participants engaged during circle time activities.

S1C2. Data between baseline and intervention in S1C2, where teacher participant two was located, was variable and did not display stability. Therefore, a functional relationship between intervention and child engagement was not demonstrated. The intervention did not have an effect on child engagement (Figure 2).

An examination of the computed means between baseline and intervention was completed. On average, 60% of child participants were engaged in circle time activities during baseline while 51% of child participants were engaged in circle time activities during intervention (see Table 5).

S2C1. Data between baseline and intervention in S2C1, where teacher participant three was located, was variable and did not display stability. Therefore, a functional relationship between intervention and child engagement was not demonstrated. The intervention did not have an effect on child engagement. Though, with the exception of the last day of data collection, at S2C1 there was less variability between baseline and

intervention sessions on the percentage of child participants engaged during circle time activities.

An examination of the computed means between baseline and intervention was completed. On average, 77% of child participants were engaged during circle time activities during baseline while 78% of child participants were engaged during intervention (see Table 5). Selective Attention training did not have an effect on the percentage of child participants engaged during circle time activities.

S2C2. Data between baseline and intervention in S2C2, where teacher participant four was located, was variable and did not display stability. Therefore, a functional reslationship between intervention and child engagement was not demonstrated. The intervention did not have an effect on child engagement (Figure 2). Toward the end of the intervention, data for the percentage of child participants engaged during circle time activities were less variable.

An examination of the computed means between baseline and intervention was completed. On average, 58% of child participants were engaged during circle time activities during baseline while 78% of child participants were engaged during intervention (see Table 5). Selective Attention training did not have an effect on the percentage of child participants engaged during circle time activities.

Group comparison

Table 5 provides a comparison of mean percentage of child engagement during baseline and intervention. A comparison between engagement in all classrooms in relation to the percent of children engaged in circle time activities. Although only two classrooms showed an increase in child engagement, three classrooms showed less

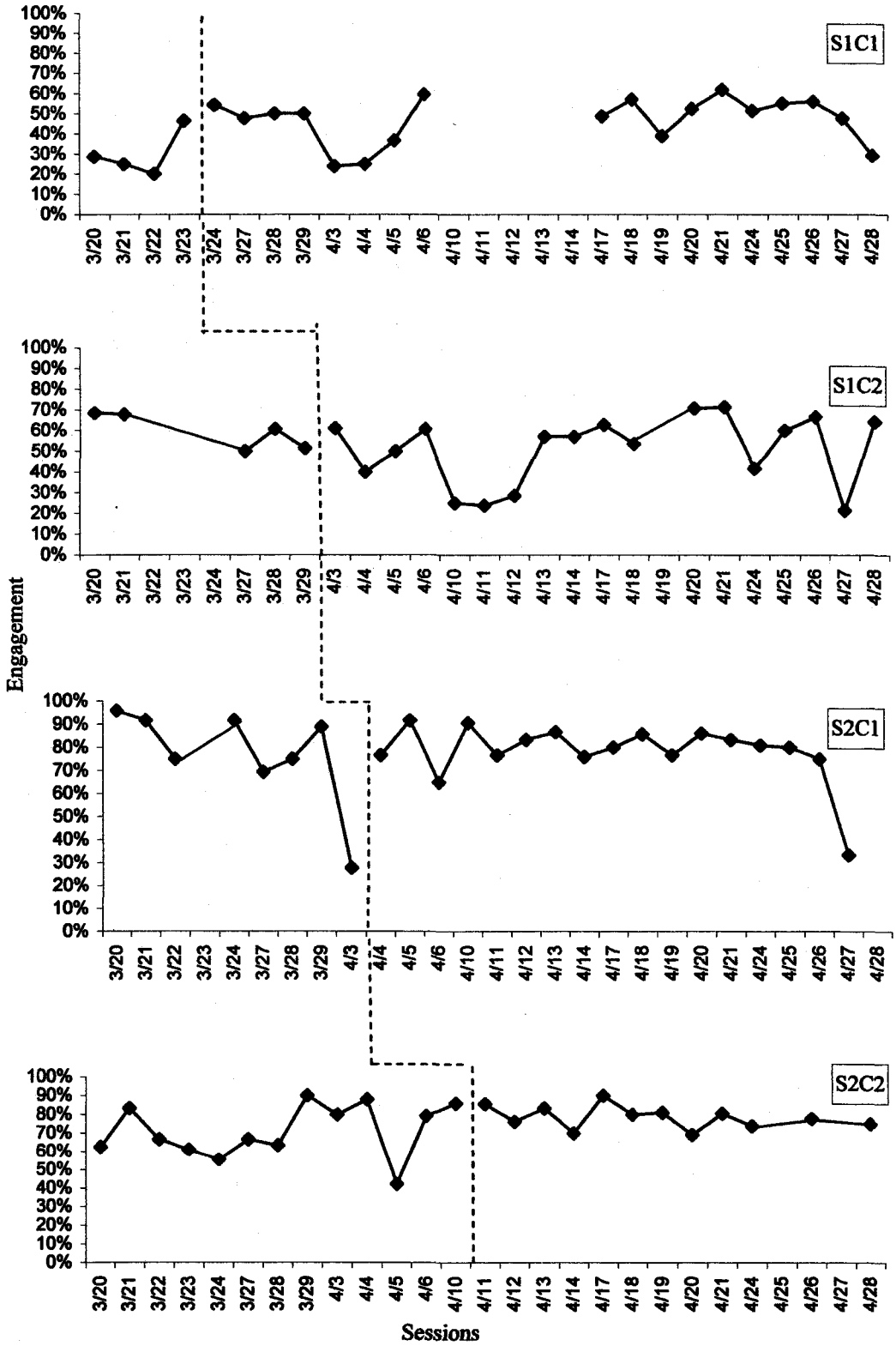
variability in child engagement after intervention. Child participants in S1C1 and S2C2 showed the most increase in child engagement. Child participants in S2C1 did not show an increase the number of children engaged in circle time, but showed more consistency in the number of children engaged during circle time. Child participants in S1C2 showed a decrease in engagement after intervention was implemented (see Figure 2).

Table 5. Percent Means and Ranges of Child Participants Engaged in Circle Time

Classroom	Baseline Mean	Range	Intervention Mean	Range
S1C1	30%	20% - 46%	47%	24% - 62%
S1C2	60%	50% - 69%	51%	21% - 71%
S2C1	77%	69% - 96%	78%	33% - 92%
S2C2	58%	42% - 90%	78%	69% - 90%

Data were not collected on children with or suspected of having disabilities. Child engagement observations were done with all children in the group. Observational data on child engagement may have been comprised of children identified with or suspected of having disabilities. Children who were identified with or suspected of having disabilities were not identified to the researcher prior to beginning baseline.

Figure 2. Percent of Child Engagement across Baseline and Intervention



Social Validity

Teacher Participants

A social validity questionnaire was distributed to teacher participants to gather information on whether the intervention was useful to teachers (see Appendix G). The results are provided in Table 6. Teacher participants one and two found the intervention useful by giving threes for all questions. Comments related to the experience of teacher participant one revealed, "...this was interesting to watch which children responded and how it affected behavior." Teacher participant four found the intervention useful but selected "somewhat true" for children liking extra attention because of the selective attention approach and telling others about selective attention. Teacher three found the intervention less useful than teacher participants one, two, or four. Teacher participant three selected "somewhat true" for an increase in child engagement, children liking the attention, continuing to use of selective attention, and using selective attention in other areas of the day. Comments from teacher participant three included, "I thought selective attention was very useful and I will keep it in mind for other classes. I feel that for my particular class now the selective attention was not needed as much as it would be with other classes."

Parents of Child Participants

A social validity questionnaire was distributed to parents of child participants to see if parents observed an effect on children (see Appendix G). The results are provided in Table 7. Parents of child participants (n = 22) did not observe that the intervention was useful for children. Comments varied among parents. Some of the comments provided by parents included, "my child talks more about circle time activities, but incident reports

Table 6. Intervention Usefulness for Each Teacher Participant (Not True = 1, Somewhat True = 2, and Very True = 3)

Question	Participant 1	Participant 2	Participant 3	Participant 4
1	3	3	2	3
2	3	3	2	2
3	3	3	3	3
4	3	3	3	3
5	3	3	2	3
6	3	3	2	3
7	3	3	3	2
Mean	3	3	2.4	2.7

haven't decreased. In my opinion it is less due to the efficacy of the selective attention approach, but the follow through of the teachers"; "I have noticed better hand raising and waiting turns to talk at other group events – especially which other children are reinforced for the desired behavior"; "I haven't noticed any difference"; and, "I am unable to observe circle time at daycare (before or after study conducted). I have not noticed any other significant changes."

Table 7. Parent Perception of Intervention Effect, by Class Mean (Not True = 1, Somewhat True = 2, Very True = 3)

Question	S1C1	Range	S1C2	Range	S2C1	Range	S2C2	Range
1	1.8	1-3	2	2	1.3	1-2	2	2
2	1.4	1-2	1.7	1-2	1.3	1-2	1.7	1-2
3	1	1	1.7	1-2	1.3	1-2	1.7	1-3
4	2.2	2-3	2.3	2-3	1.4	1-2	1.7	1-2
5	1.4	1-2	1.3	1-2	1.4	1-2	1.7	1-2
Mean	1.6		1.8		1.3		1.7	

Summary

This study used a multiple baseline design to determine whether training preschool teachers to use selective attention via verbal praise and praise cues increased teachers' use of the approach. Second, this study was used to determine whether the implementation of selective attention increased children's engagement during circle time activities. Analysis of data revealed that training preschool teachers to use selective attention was effective with some but not all teacher participants. Analysis of data was inconclusive with regard to increasing engagement in child participants.

CHAPTER 5

DISCUSSION

This chapter discusses the results of the study examining the effects of intervention preschool teachers to use selective attention on preschool teacher behavior and child engagement. First, results related to preschool teacher behavior and child engagement are reviewed. Second, the potential impact of this study on early childhood teacher education is addressed. Third, the probable impact of this study on children receiving daycare and preschool services is examined. Fourth, limitations of this study are addressed. Fifth, future directions for research related to this study are presented.

Overview of Study

Teachers encourage the growth of young children through providing educational and socio-emotional support. While there is an increase in all children enrolling in preschool programs, there appears to be a lack in training teachers to provide this support. Teacher training programs for early childhood teachers should provide data-based positive reinforcement strategies specifically for preschool-aged children.

Early childhood teachers provide the foundation for young children to experiment with the environment. Early childhood teachers give children support through the use of verbalizing teacher expectations, teacher praise, and facilitating peer interactions (Jones & Kepner, in press). Further, early childhood teachers set-up the environment to bolster

school readiness skills by giving consistent reinforcement and structured environments to help prepare preschool-age children (3-6 years) for elementary school. Therefore, teachers of preschool-aged children must be equipped with research-based strategies that provide evidence of good developmental outcomes. For example, teachers provide safe environments for children to make choices, to understand the consequences of choices, and to participate in school readiness tasks.

Although the selective attention strategy was used in schools for adolescents with emotional or behavioral disorders (Cantrell & Cantrell, 2002; Jones & Kepner, in press), it was not empirically validated, used with teachers of preschool-age children, nor found in the research literature. Components of the selective attention strategy were found in the literature. These components were verbal praise, praise cue, contingent teacher attention, and stating teacher expectations. Verbal praise (e.g., positive reinforcement) was extensively researched, but operationalized definitions of verbal praise vary (e.g., Strain & Timm, 1974; Strain, Shores, & Kerr, 1976; Matheson & Shriver, 2005). Praise cues (e.g., vicarious reinforcement) was not found in the literature although alluded to in Strain and Timm's (1974) and Strain, Shores, and Kerr's (1976) studies. Strain et al. (1976) suggested when other children were receiving praise, the praise served as a cue for a child who was not receiving the praise. Contingent teacher attention was found in the research literature. In 1987, McDaniel wrote that it was vitally important to not only praise children but to praise children contingent on the teacher expectation.

The purpose of this study was to examine the effects of selective attention training via verbal praise and praise cues on preschool teacher and child behavior. This study also

extended the current literature relating to training teachers of preschool-age children, and using positive reinforcement strategies with preschool-age children.

This study was conducted in four preschool classrooms; two classrooms in each of two preschool centers. Four teachers of preschool-aged children participated along with 52 children. The number of child participants varied in the classrooms (e.g., S1C1 n=13; S1C2 n=7; S2C1 n=13; S2C2 n=18). Up to six children were observed for each child observation. Baseline data were collected until a stable set of teacher participant responses was evident upon visual inspection, then intervention data were collected. The implementation of intervention sessions was staggered among the participants. Therefore, teacher participant one and two had 18 days of intervention; teacher participant three had 16 days of intervention; and, teacher participant four had 12 days of intervention. It was predicted that teachers of preschool-aged children increased the use of selective attention during intervention sessions, and that preschool-aged children's engagement would also increase.

Effects of Selective Attention Training on Preschool Teacher Behavior

Question one examined the effects of selective attention training on teacher behavior. It was anticipated that teachers of preschool-aged children would increase the use of selective attention through using verbal praise and praise cues. Generally, all teachers showed an increase in using verbal praise. Teacher participants one and four showed the most stability use of verbal praise. Teacher participant two showed an increase in the use of verbal praise but became less stable the last week of intervention.

Teacher participant three was the most stable and demonstrated significant variation in responses.

Teachers' use of praise cues was less stable across participants. For example, teacher participants one and four showed an increase in the use of praise cues. Teacher participant two increased the use of praise cues but to a lesser degree than participants one and four. Teacher participant three did not use praise cues (see Figure 1). Teacher participant four was the only one to use praise cues consistently as seen in her data.

Teacher participants one and four effectively demonstrated the use of verbal praise and praise cues. Specifically, teacher participant one used a high rate of verbal praise and praise cues, even after a one-week break. Although teacher participant one's data appeared to have become more stable toward the end of the study and her rate of responses tended to become less variable, stability was not achieved for this participant. Teacher participant four used a high rate of verbal praise and praise cues. Stability was seen in the data, though, the last data point showed a decrease in her rate of use. Teacher participant four's drop may have been caused by illness. She was sick the last week of data collection, and was absent a few days. For both teacher participants one and four, the success of intervention may have been seen because of each participants' willingness to participate. Both teacher participants listened attentively, asked clarifying questions during intervention, practiced the selective attention strategies, and implemented the strategies.

Teacher participant two had more difficulty effectively using verbal praise and praise cues. Teacher participant two had stability in the use of verbal praise and praise cues in week five. However, teacher participant two's responses became less stable in

implementation during week six. It was likely this occurred because of how CDC A expected teachers to share planning. Teacher participant two's co-teacher planned and implemented lessons during week four and week six (4/10-4/14 and 4/24-4/28). Although during week four, teacher participant two demonstrated more stability in the use of verbal praise and praise cues, week four had a lower rate than week six. It was also likely that during week five, teacher participant two became more at ease with using selective attention strategies, but had difficulty integrating the same level during her co-teacher's presentation of lessons in week six. Teacher participant two told the researcher that she had difficulty integrating the strategy during her co-teacher's circle time lessons. While the researcher and teacher participant two worked through this difficulty during intervention sessions, teacher participant two stated she felt that she "was being rude".

Teacher participant three demonstrated the use of the selective attention strategies via using verbal praise. However, she never achieved stability. It was not evident that teacher participant three used praise cues. Teacher participant three appeared less accepting of the intervention sessions and often seemed annoyed with taking time for intervention sessions. She indicated on the knowledge of selective attention survey that she did not think she needed assistance with behavior management techniques. Teacher participant three indicated she thought the selective attention training was useful, and would use it when needed but not implement it as a general rule.

It is interesting to note that of all four teacher participants, only one of the teacher participants did not have some college. Thus, it may have been difficult for all teacher participants to implement the use of verbal praise and praise cues because they lacked a

foundation of basic classroom and behavior management. This may have affected the teahcers' understanding and use of verbal praise and praise cue.

It is interesting to note that based on the Social Validity survey, all teachers found the selective attention strategy somewhat to very useful. In part this may be due to the teachers' observation and involvement of the entire circle time group. The Social Validity survey results conflict with the data collected on child engagement. This may be due to an examination of the effects of the selective attention strategy on only six child participants from each teacher's entire circle time group.

These findings were similar and extended Matheson and Shriver's (2005) study. First, Matheson and Shriver concluded training teachers to use effective commands increased their use of giving effective commands. Further, teachers had varying rates of effective command use, but all teachers increased or stabilized use of effective commands. In the current study, teacher participants had varied rates of verbal praise but all increased their rate of verbal praise. Second, during Matheson and Shriver's second intervention phase (e.g., effective commands with praise), Matheson and Shriver did not define verbal praise. Matheson and Shriver gave generic examples of praise (e.g., [name of child] "did a good job", p. 208). It may have been difficult to observe and measure this definition of verbal praise and affected the results. The current study provided a specific, observable, and measurable definition of verbal praise and praise cues. Thus, data collection for both teacher variables was clearly defined and observable.

Effects of Selective Attention on Preschool-aged Child's Engagement

Question two examined the effects of teacher's use of selective attention on child engagement. It was anticipated that child engagement would increase when the teacher implemented the selective attention strategy. Generally, the child engagement data were inconclusive across all teacher participants because baseline data were not stable. A ceiling effect was evident in two classrooms (e.g., S2C1, S2C2). Overall, these two classrooms had a higher percentage of child engagement during baseline than the other classrooms (e.g, S1C1, S1C2). However, data from S2C1 and S2C2 appeared to have less variability toward the end of the study.

At S1C1, where teacher participant one taught, child engagement data did not appear affected by the implementation of the selective attention approach. At S1C2, where teacher participant two taught, data were similar to S1C1 with the exception of week four (4/10 – 4/15). For the first three days of week four, child engagement data were lower than previous or past days. This finding may be due to teacher participant two's difficulty integrating the selective attention strategy during her co-teacher's week of lesson planning.

Teacher participant three's and four's (e.g., S2C1 and S2C2, respectively) child engagement data appeared to be less variable as the study progressed. For example, teacher participant three's data had more variability during weeks one through four and less during weeks five and six. Teacher participant four's child engagement data were similar.

An interesting finding related to child engagement data was examining child engagement data between CDC A and CDC B. S1C1 and S1C2 had more variability in

child engagement data while S2C1 and S2C2 had less variability. This could be an affect of different teaching styles, variability in co-teacher presentation, or inherent center differences. It was inconclusive whether the selective attention strategy affected children with or suspected of having disabilities. Although some parents disclosed they had a child with or suspected of having a disability who attended the preschool (n=8), children's identities were not disclosed to the researcher.

Another interesting finding was related to Malmskog and McDonnell's (1999) definition of child engagement as it appeared inappropriate for use in this study. For example, in this study children often gazed in the direction of where a teacher was pointing or toward another student who was speaking, but this behavior was not counted as being *engaged* due to the narrowed definition used by Malmskog and McDonnell. Further, for the purposes of this study engagement was examined during structured circle time, while Malmskog and McDonnell examined engagement during small group activities.

These findings are dissimilar to previous studies (e.g., Strain & Timm, 1974; McWilliam & Bailey, 1995; Hiralell & Martens, 1998; and, Matheson & Shriver, 2005) examining child engagement or attention. McWilliam and Bailey found that teacher attention did affect child engagement when children played in groups of five or six. McWilliam and Bailey's play groups of five or six could have had an impact on their findings. The current study did not find conclusive evidence of the affect of selective attention on child engagement during circle time with preschool-aged children. Although teacher participants were implementing selective attention with up to 22 children during circle time, child engagement was recorded only with children who had parent consent.

Data were collected for this study based on child engagement of up to six children, in a group as large as 22, who were participating in circle time activities. Child engagement was difficult to measure because the six observable children were not observed in isolation but as participants in a large group setting. It is likely child behavior is different in large group versus small group settings.

Differences were also found between Strain and Timm's (1974) study and this study. For example, Strain and Timm contend that a child's rate of positive behavior increased with contingent teacher attention (e.g., praise with touch) and it also affected peers' positive behaviors. Strain and Timm provided contingent teacher attention when a child participant demonstrated appropriate behaviors. Strain and Timm did not give contingent teacher attention solely when the child demonstrated teacher expectations nor did Strain and Timm have the teacher state expectations. With the current study, no affect on child engagement was found when verbal praise or praise cues were contingent on children performing teacher expectations.

When comparing the present study with Hiralell and Martens' (1998) study, there appeared to be differences in the effect of instruction on engagement. First, Hiralell and Martens found an affect between the direct instruction strategy and children's time on-task, attending, and playing appropriately. Hiralell and Martens' child groups consisted of up to four children working directly with the teacher and in an engaging activity (e.g., art). In this study it was likely no affect was found because data were collected during circle time in which children were expected to use listening as a primary skill (e.g., whole group instruction).

Impact on Early Childhood Teacher Education

Data collected from the single subject teacher observations (e.g., verbal praise and praise cues) and Teacher Social Validity questionnaires support training teachers of preschool-aged children to use the selective attention strategy. During intervention, all of the teacher participants increased the use of verbal praise. Most of the teacher participants used more praise cues than compared to training. However, praise cues may not have been a good measure of selective attention. Across all teacher participants, the use of praise cue was low. This may have been because opportunities to use praise cues were minimal especially compared to verbal praise. For example, the teachers were asked to praise a child who was demonstrating the teacher expectations as a means to cue another child who was not demonstrating teacher expectations. Moreover, teachers' use of praise cues could have been affected by the ability to add it to their repertoire. Perhaps teachers had difficulty implementing praise cues because it was a difficult strategy for them to learn.

Selective attention expectations were used as a way for teachers to provide contingent attention via verbal praise and praise cues. It was likely some children performed the desired expectations because the expectations were verbalized and practiced. Though there was a functional relationship between baseline and intervention on teacher participants' use of selective attention, child engagement was not impacted. Therefore, as selective attention training related to the child participants this study, it does not appear to be effective.

Impact on Preschool-aged Children

Data collected from the single subject classroom observations (e.g., child engagement) and Parent Social Validity questionnaires do not support using the selective attention strategy with preschool-aged children. A functional relationship was not found between teachers' implementation of selective attention and child engagement. There were many plausible explanations of why the implementation of selective attention did not have an effect on child engagement.

First, Malmskog and McDonnell's (1999) definition of child engagement may have been inappropriate for use in this study. For example, when children were engaged in the activity but did not demonstrate behavior as defined in the response definition, children were not counted as engaged. Second, although only up to six children were observed for engagement, the children were seated in a large group of up to 22 children. Perhaps the other children in the group were engaged, but they were not counted because those children did not have parental informed consent.

Third, there were days when less than six children were observed because of abseentism. Thus the overall percentage of child engagement for that day was affected. For example, if six children with informed consent were present *n* for that session was six and child engagement percentage was based on six. But, if three children with informed consent were present *n* for that session was three and percent of children engaged was based on three. Fourth, group dynamics varied within and between groups on a daily basis, based on the number of children observed and the numbered of children present in the large group. Further, group dynamics were affected by the dispositions of the children within the groups.

Concomitantly, teachers' use of selective attention may have increased preschool-aged children's knowledge of circle time expectations. Prior to the intervention, teacher expectations for circle time were not verbalized and children did not understand what was expected of them. For example, when teacher participant four started the intervention, and asked the children what was expected during circle time, the children often stated different expectations. It took several weeks before the children were able to restate the expectations with little error.

Preschool-aged children continue to develop in multiple areas (e.g., cognitive, social, self-help, etc.) and may need more opportunities to engage in the environment, with peers, and with teachers, while teachers interact with and provide behavior specific praise. For this study, a better outcome variable may have been compliance. A functional relationship between implementation of the selective attention strategy and child engagement was not found in this study. It is likely preschool-aged children may need a less rule-bound and more flexible approach.

Limitations

There were several limitations with this study. First, random sampling was not used as the two preschool sites were selected due to convenience. Second, using two preschool sites was viewed as a limitation. Although very similar in mission and environment, the selected preschool sites varied in how the teaching was presented. For example, teachers in CDC A shared the teaching load (e.g., planning, preparing, presenting, etc.); whereas, teachers in CDC B were solely responsible for the teaching load. Additionally, CDC B incorporated work study students who were present during

activities, circle time, and mealtime; whereas, CDC A had only two adults in the room. These center differences may have impacted the baseline and intervention data. Third, the level of teacher experience or education varied among participants (e.g., high school graduate or some college). Fourth, it will be difficult to generalize these findings to other preschool settings. For example, CDC A enrolled children affiliated with a specific corporation and in CDC B most children's parents were members of a university community. These children may have more similarities than children enrolled in community-based CDCs. However, both CDCs in this study did enroll children from the community at-large.

Fifth, not all teacher participants were full participants. Teacher participant three was not as effective in delivering the selective attention model as the other teacher participants. Teacher participant three appeared to lack interest and commitment to the use of selective attention and this study. Thus, the results drawn on all teachers' use of selective attention strategies were affected by teacher participant three. Sixth, to make more evidenced-based assertions related to teachers' use of selective attention, a multiple-baseline with maintenance should have been implemented. This type research design would have bolstered the findings. Seventh, the definition of child engagement, as given by Malmskog and McDonnell in 1999, was determined to be inappropriate for this study. For example, child behavior was not counted as engaged if the child was looking the in the direction of another child speaking. Eighth, when the video tapes were viewed it was difficult to hear teacher participant four. Also, it was difficult to see the faces of children and in what direction the children were looking. Ninth, teacher participants' different teacher styles, the variability in co-teacher presentation (e.g., CDC A), and

inherent center differences may have contributed to the variable findings. In addition, children seemed more engaged in circle time activities in CDC B. This could have been a difference in what was expected during circle between CDC A and CDC B.

Finally, all teacher participants did not implement the selective attention strategy with integrity. For example, at times, teacher participants did not complete a procedure review when two or more children were violating the circle time procedures. A procedural integrity checklist may have assisted the teachers with implementing the strategy with stabiltiy. A major concern of this study was that the dependent variable (e.g., child engagement) in research question two was completely dependent on the effective implementation of the dependent variables (e.g., verbal praise and praise cues) in research question one. For example, if a teacher did not achieve stability in the use of verbal praise or praise cues the data on child engagement in that classroom may have been negatively influenced.

Recommendations for Future Research

Past research has documented the effectiveness of verbal praise, contingent teacher attention, and the teacher providing children with clear expectations (Strain & Timm, 1974; Strain, Shores, & Kerr, 1976; and, McDaniel, 1987). However, all of this past research has not been combined together. A clear operationalized definition of verbal praise was not found in the research nor were teachers stating clear expectations to preschool-aged children. This study combined these variables and examined the effectiveness of using the selective attention strategy in inclusive preschool settings. In

the future, research studies need to be conducted to determine the effectiveness of using the selective attention strategy under the following conditions.

1. A Child Development Center (CDC) in a low socio-economic area that has the National Association for the Education of Young Children (NAEYC) accreditation should be used. A CDC with these attributes may vary in child and teacher demographics. Data from these types of CDCs may generalize better than the current study.
2. Ensuring teachers have *buy-in* to the intervention is a must. Teacher participant three appeared reticent with implementing the selective attention approach. Her reluctancy may have impacted the results.
3. Implementing a multiple baseline across participants with maintenance may have bolstered the results. Collecting data on teachers' continued use of selective attention and the impact on children behavior would add more credibility to the findings.
4. Examining the effectiveness of selective attention on children with or suspected of having disabilities should be collected. These data would provide evidence for use with children identified with disabilities. Data should be collected on typically developing children as well and in inclusive environments.
5. Malmskog and McDonnell's (1999) definition of engagement should be changed if data are collected during circle time activities. Data collected on a different definition of child engagement may have produced different results.

6. Change when data collection takes place. For example, conduct observations during center-based activities versus whole group instruction. Center-based activities may provide a better medium for child engagement.
7. A different child outcome variable should be used. Examining the effects of selective attention on compliance to directives may be more useful.
8. Instituting a procedural integrity checklist may be useful. For example, teachers could use the checklist as a way to ensure they are using the selective attention strategy more effectively, efficiently, and under the proper guidelines.

Summary

It was anticipated that training teachers of preschool-aged children to implement selective attention during circle time would increase teachers' use of the strategy. Further, it was anticipated that implementing the strategy would increase preschool-aged children's engagement during circle time. A functional relationship was found between baseline and intervention with teachers' use of selective attention via verbal praise across all teacher participants. However, a functional relationship was not found with teachers' use of selective attention via praise cues. Teacher participant three did not use praise cues.

There was not a functional relationship between baseline and intervention data collected on child engagement. Child engagement was variable throughout the study including during baseline. There was less variability in child engagement toward the end of the intervention for teacher participants one, three, and four.

This study adds to the current research literature. It supports the idea of training teachers of preschool-aged children to verbalize expectations for certain activities (e.g., circle time) and provide contingent attention when children exhibit the teacher expectations. This study suggests that selective attention may not be appropriate for use in the preschool environment. It may be because Malmskog and McDonnell's (1999) definition of engagement is inappropriate. It is possible that the selective attention strategy should be used with children in elementary school.

Further research using the selective attention approach needs to be conducted to determine its efficacy in preschool environments. Training teachers to use selective attention seems to be useful. Perhaps implementing a modified version of the selective attention approach would produce better outcomes for preschool-aged children.

APPENDIX A

DEFINITION AND INTRODUCTION OF POSITIVE REINFORCEMENT

Definition and Introduction

Positive Reinforcement

Definition

Positive reinforcement is a consequence given to a person that increases their behavior. For example, if a child is given a piece of candy after they flushed the toilet, the child may flush the toilet more often than before given the candy.

Another example is if you gamble and win periodically, you may increase the amount of time you gamble because you have won in the past.

Introduction

Positive reinforcement has shaped human's behavior for some time. You may remember some names of theorists that introduced positive reinforcement to society (e.g., Pavlov, Skinner, Bandura, etc.). Using some of these theorists' ideas in the classroom setting may change child behavior. Imagine if you were equipped with strategies that could assist you in increasing desired child behavior. If desired child behavior increased, you may have more time to interact with children in the classroom, more time to complete work related tasks, and more time to do other related tasks.

APPENDIX B

TEACHER FORMS

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Social/Behavioral IRB – Full Board Review
Approval Notice

NOTICE TO ALL RESEARCHERS:
Please be aware that a protocol violation (e.g., failure to submit a modification for any change) of an IRB approved protocol may result in mandatory remedial education, additional audits, re-consenting subjects, researcher probation suspension of any research protocol at issue, suspension of additional existing research protocols, invalidation of all research conducted under the research protocol at issue, and further appropriate consequences as determined by the IRB and the Institutional Officer.

DATE: January 20, 2006

TO: **Dr. Nancy Sileo,** Special Education Department

FROM: Office for the Protection of Research Subjects

RE: Notification of IRB Action
Protocol Title: **The Effect of Selective Attention on Preschool Teacher and Child Behavior**
Protocol #: 0512-1838

This memorandum is notification that the project referenced above has been reviewed by the UNLV Social/Behavioral Institutional Review Board (IRB) as indicated in Federal regulatory statutes 45CFR46. The protocol has been reviewed and approved.

The protocol is approved for a period of one year from the date of IRB approval. The expiration date of this protocol is January 19, 2007. Work on the project may begin as soon as you receive written notification from the Office for the Protection of Research Subjects (OPRS).

PLEASE NOTE:
Attached to this approval notice is the **official Informed Consent/Assent (IC/IA) Form** for this study. The IC/IA contains an official approval stamp. Only copies of this official IC/IA form may be used when obtaining consent. Please keep the original for your records.

Should there be *any* change to the protocol, it will be necessary to submit a **Modification Form** through OPRS. No changes may be made to the existing protocol until modifications have been approved by the IRB.

Should the use of human subjects described in this protocol continue beyond January 19, 2007, it would be necessary to submit a **Continuing Review Request Form** *60 days* before the expiration date.

If you have questions or require any assistance, please contact the Office for the Protection of Research Subjects at OPRSHumanSubjects@ccmail.nevada.edu or call 895-2794.

UNLV

UNIVERSITY OF NEVADA LAS VEGAS

INFORMED CONSENT

Teacher Consent

Department of Special Education

TITLE OF STUDY: The Effect of Selective Attention on Preschool Teacher and Child Behavior

INVESTIGATOR(S): Nancy M. Sileo, Ed.D. and Keri L. Altig, Ed.S.

CONTACT PHONE NUMBER: (702) 895-3205

Purpose of the Study

You are invited to participate in a research study. The purpose of this study is to determine the effects of selective attention on teacher and child behavior. It is suspected when teachers are trained to use their attention selectively it will have an effect on child behavior. Training teachers to use selective attention may give children more teacher attention especially as children are doing what is expected. Specifically, it is anticipated that when teachers use selective attention, children will be more engaged in circle time activities (e.g., paying attention, participating in discussion, listening to stories, etc.). For example, if child "a" was not listening to a story, a teacher may praise child "b" who was listening. Once child "a" begins to listen to the story, the teacher verbally praises child "a".

Participants

You are being asked to participate in the study because you are a preschool teacher of children ages 4 to 6.

Procedures

If you volunteer to participate in this study, you will be asked to do the following: to devote approximately 20 minutes to complete the teacher education survey and social validity forms. The social validity form will be given to you once the research study has ended. Once observations begin, prepare to spend approximately 11 hours in training. (e.g., 30 minutes per day over 25 days).

Approximately 15 fifteen-minute observations will be conducted over 3 weeks. Keri Altig or another trained observer will enter the classroom and record 15 minutes of classroom behavior during circle time procedures. Recording will include paper and pencil and video. When training sessions begin, they will occur within 24 hours post-observation. You will be asked to spend approximately 25 training sessions with Keri Altig. These sessions are for training purposes only. Approximately 30 minutes will be needed for each training session. Interruptions to the daily classroom routine are not anticipated. As part of training, the classroom circle time interaction will be videotaped. This includes the interaction between you and the children in your classroom. This video is essential for training you to use of selective attention. The video will be reviewed only with you and the researchers. All videos and paper data collection sheets will be kept confidential and secure by Nancy Sileo and Keri Altig. Also, your training sessions will be videotaped for the purposes of treatment integrity. Essentially, videos from the training sessions will be viewed by another observer to ensure the training occurred as planned.

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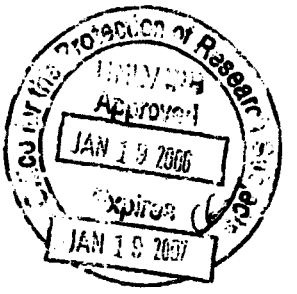

INFORMED CONSENT

Teacher Consent

Department of Special Education

TITLE OF STUDY: The Effect of Selective Attention on Preschool Teacher and Child Behavior

INVESTIGATOR(S): Nancy M. Sileo, Ed.D. and Keri L. Altig, Ed.S.

CONTACT PHONE NUMBER: (702) 895-3205

Benefits of Participation

There *may not* be direct benefits to you as a participant in this study. However, we hope to learn that when teachers give children praise for what they are expected to do children will become more engaged in circle time activities. Other benefits may include increasing your awareness and use of behavioral intervention strategies with the children with whom you work; you may feel more confident about your teaching skills; you may learn how to increase children's engagement during circle time activities and in other areas; and, you may become more consistent in your behavior management skills.

Risks of Participation

There are risks involved in all research studies. This study may include only minimal risks. Some of the risks include time to complete the informed consent, education survey, and social validity forms; your time during training; you may have an increased awareness of behavior management techniques; and, you may decrease your lunch or break time during trainings.

Cost /Compensation

There *will not* be financial cost to you to participate in this study. The study will take 30 minutes/day for 25 days of your time. You *will not* be compensated for your time. ***The University of Nevada, Las Vegas may not provide compensation or free medical care for an unanticipated injury sustained as a result of participating in this research study.***

Contact Information

If you have any questions or concerns about the study, you may contact Nancy Sileo or Keri Altig at (702) 895-3205. For questions regarding the rights of research subjects, any complaints or comments regarding the manner in which the study is being conducted you may contact **the UNLV Office for the Protection of Research Subjects at 702-895-2794.**

Voluntary Participation

Your participation in this study is voluntary. You may refuse to participate in this study or in any part of this study. You may withdraw at any time without prejudice to your relations with the university. You are encouraged to ask questions about this study at the beginning or any time during the research study.

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Department of Special Education

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INVESTIGATOR(S): Nancy M. Sileo, Ed.D. and Keri L. Altig, Ed.S.

CONTACT PHONE NUMBER: (702) 895-3205

Confidentiality

All information gathered in this study will be kept completely confidential. No reference will be made in written or oral materials that could link you to this study. All records will be stored in a locked facility at UNLV for at least 3 years after completion of the study. After the storage time the information gathered will be shredded, broken, and destroyed.

Participant Consent:

I have read the above information and agree to participate in this study. I am at least 18 years of age. A copy of this form has been given to me.

_____ _____

Signature of Participant Date

_____

Participant Name (Please Print)

I agree to be video taped while conducting or involved in circle time activities.

_____ _____

Signature of Participant Date

_____

Participant Name (Please Print)

Participant Note: Please do not sign this document if the Approval Stamp is missing or is expired.

Teacher Education Survey

1.) Do you posses the CDA? Y / N

2.) What is the highest level of education you have completed? (please check)

_____GED _____high school diploma _____some college

_____bachelor's _____some master's coursework _____doctorate

_____other

APPENDIX C

PARENT FORMS

Instructional Letter

December 1, 2005

We are providing training to your child's preschool teachers. We anticipate this training to increase the teacher's use of positive verbal responses to the children in your child's preschool classroom. If you would like your child to participate, please read, sign the informed consent, and complete the attached demographic information regarding your child. Please return all forms to your child's preschool center. A staff member will ensure your informed consent and survey are detached and stored in separate envelopes.

Thank you for your participation.

_____

Nancy Sileo, Ed.D.

_____

Keri L. Altig, Ed.S.

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Social/Behavioral IRB – Full Board Review
Approval Notice

NOTICE TO ALL RESEARCHERS:
Please be aware that a protocol violation (e.g., failure to submit a modification for any change) of an IRB approved protocol may result in mandatory remedial education, additional audits, re-consenting subjects, researcher probation suspension of any research protocol at issue, suspension of additional existing research protocols, invalidation of all research conducted under the research protocol at issue, and further appropriate consequences as determined by the IRB and the Institutional Officer.

DATE: January 20, 2006

TO: **Dr. Nancy Sileo,** Special Education Department

FROM: Office for the Protection of Research Subjects

RE: Notification of IRB Action
Protocol Title: **The Effect of Selective Attention on Preschool Teacher and Child Behavior**
Protocol #: 0512-1838

This memorandum is notification that the project referenced above has been reviewed by the UNLV Social/Behavioral Institutional Review Board (IRB) as indicated in Federal regulatory statutes 45CFR46. The protocol has been reviewed and approved.

The protocol is approved for a period of one year from the date of IRB approval. The expiration date of this protocol is January 19, 2007. Work on the project may begin as soon as you receive written notification from the Office for the Protection of Research Subjects (OPRS).

PLEASE NOTE:
Attached to this approval notice is the **official Informed Consent/Assent (IC/IA) Form** for this study. The IC/IA contains an official approval stamp. Only copies of this official IC/IA form may be used when obtaining consent. Please keep the original for your records.

Should there be *any* change to the protocol, it will be necessary to submit a **Modification Form** through OPRS. No changes may be made to the existing protocol until modifications have been approved by the IRB.

Should the use of human subjects described in this protocol continue beyond January 19, 2007, it would be necessary to submit a **Continuing Review Request Form** *60 days* before the expiration date.

If you have questions or require any assistance, please contact the Office for the Protection of Research Subjects at OPRSHumanSubjects@ccmail.nevada.edu or call 895-2794.

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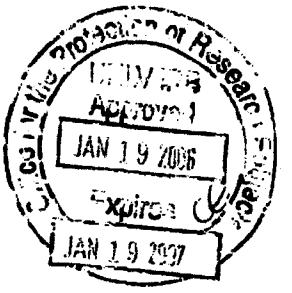

INFORMED CONSENT

Parent Consent

Department of Special Education

TITLE OF STUDY: The Effect of Selective Attention on Preschool Teacher and Child Behavior

INVESTIGATOR(S): Nancy M. Sileo, Ed.D. and Keri L. Altig, Ed.S.

CONTACT PHONE NUMBER: (702) 895-3205

Purpose of the Study

You are invited to participate in a research study. The purpose of this study is to determine the effects of selective attention on teacher and child behavior. It is suspected when teachers are trained to use their attention selectively it will have an effect on child behavior. Training teachers to use selective attention may give children more teacher attention especially as children are doing what is expected. Specifically, it is anticipated that when teachers use selective attention, children will be more engaged in circle time activities (e.g., paying attention, participating in discussion, listening to stories, etc.). For example, if child "a" was not listening to a story, a teacher may praise child "b" who was listening. Once child "a" begins to listen to the story, the teacher verbally praises child "a".

Participants

You are being asked to participate in the study because your child's teacher has agreed to participate and you are a parent of a preschool-age child.

Procedures

If you volunteer to participate in this study, you will be asked to do the following: to devote approximately 20 minutes to complete the child developmental survey and social validity forms. The social validity form will be given to you once the research study has ended. Return all forms to your child's preschool.

Your child will not participate individually. Rather, your child will participate in the classroom routine as usual and general observation data regarding classroom behavior will be collected via paper and pencil and video tape. Approximately fifteen 15-minute observations will be conducted over 3 weeks. Keri Altig and other trained observers will enter the classroom and record 15 minutes of classroom behavior each day. The observations will be video taped. The purpose of the video tape is to record teacher and child behavior, use the tape to give live examples of when and how to use selective attention (e.g., training teachers), and to ensure the observation data collection is reliable. Only observers trained for this study will view the video tape. Interruptions to the daily routine are not anticipated. All paper data collection sheets and video tapes will be kept confidential and secure by Nancy Sileo and Keri Altig.

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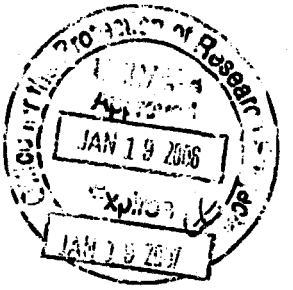
INFORMED CONSENT

Parent Consent

Department of Special Education



TITLE OF STUDY: The Effect of Selective Attention on Preschool Teacher and Child Behavior

INVESTIGATOR(S): Nancy M. Sileo, Ed.D. and Keri L. Altig, Ed.S.

CONTACT PHONE NUMBER: (702) 895-3205

Benefits of Participation

There *may not* be direct benefits to you as a participant in this study. However, we hope to learn that when teachers give children praise for what they are expected to do children will become more engaged in circle time activities. Through this research study, your child may receive additional teacher attention for their behavior; your child may participate more in circle time activities; your child's teacher's knowledge of contingent teacher attention may increase; and, your child's teacher may become more consistent in giving contingent attention.

Risks of Participation

There are risks involved in all research studies. This study may include only minimal risks. Please expect to devote ten minutes to complete the child developmental history form and this consent form. At the conclusion of the research study, please expect to devote five minutes to complete the social validity form. Potential risks for your child to participate include an increase in classroom distractions (e.g., new adults in the room, video camera).

Cost /Compensation

There *will not* be financial cost to you to participate in this study. The study will take approximately 20 minutes of your time. You *will not* be compensated for your time. *The University of Nevada, Las Vegas may not provide compensation or free medical care for an unanticipated injury sustained as a result of participating in this research study.*

Contact Information

If you have any questions or concerns about the study, you may contact Nancy Sileo or Keri Altig at **(702) 895-3205.** For questions regarding the rights of research subjects, any complaints or comments regarding the manner in which the study is being conducted you may contact **the UNLV Office for the Protection of Research Subjects at 702-895-2794.**

Voluntary Participation

Your participation in this study is voluntary. You may refuse to participate in this study or in any part of this study. You may withdraw at any time without prejudice to your relations with the university. You are encouraged to ask questions about this study at the beginning or any time during the research study.

UNLV
UNIVERSITY OF NEVADA LAS VEGAS

INFORMED CONSENT

Parent Consent

Department of Special Education

TITLE OF STUDY: The Effect of Selective Attention on Preschool Teacher and Child Behavior

INVESTIGATOR(S): Nancy M. Sileo, Ed.D. and Keri L. Altig, Ed.S.

CONTACT PHONE NUMBER: (702) 895-3205

Confidentiality

All information gathered in this study will be kept completely confidential. No reference will be made in written or oral materials that could link you to this study. All records will be stored in a locked facility at UNLV for at least 3 years after completion of the study. After the storage time the information gathered will be shredded, broken, and destroyed.

Participant Consent:

I have read the above information and agree to participate in this study. Further, I agree to allow my child to participate in this study. I am at least 18 years of age. A copy of this form has been given to me.

_____ _____

Signature of Participant Date

_____

Participant Name (Please Print)

I agree to allow my child to be video and audio taped for the sole purpose of training teachers to use contingent teacher attention (e.g., selective attention).

_____ _____

Signature of Participant Date

_____

Participant Name (Please Print)

_____

Child's Name (Please Print)

Participant Note: Please do not sign this document if the Approval Stamp is missing or is expired.

Child Developmental History

At what age (in months) did your child

_____walk? _____speak in sentences?

_____toilet train?

Currently, do you have any concerns regarding

Y / N health? **Y / N** vision? **Y / N** hearing?

If indicated yes in any above, please describe.

_____

_____

_____

_____

Is your child eligible for special education services as a child with a disability? **Y / N**

If no, do you suspect your child may have a disability? **Y / N**

Please circle Yes (Y) or No (N) for the following questions.

1.) **Y / N** Did your child compare or contrast items? For example, did your child say that two things shared similar characteristics? Or, did your child say two things were distinct from each other?

2.) **Y / N** Was your child able to retell a story they heard earlier? For example, after reading a story at preschool, your child told you about the story on your return home.

3.) **Y / N** Did your child constantly ask you 'why'? For example, on your way home, your child asked why you were stopped at the stop light, why you were turning down a certain street, and why you were listening to music.

4.) **Y / N** Does your child dress independently? For example, your child was able to snap, button, zip, and pull-on clothes independently.

5.) **Y / N** Does your child ride a tricycle independently? For example, your child was able to start, maintain a constant pedal movement for some distance, and steer appropriately.

6.) **Y / N** Does your child hold their crayon or other writing instrument in the palm up writing style? For example, is your child able to hold a pencil the same way you hold a pencil?

7.) **Y / N** When your child writes or draws, can you identify what they drew? For example, if your child drew a circle, does it look like a circle?

8.) **Y / N** Does your child like socializing with other children? For example, your child's preschool teachers tell you your child enjoys playing with multiple children in the classroom.

9.) **Y / N** Does your child exhibit sympathy toward you? For example, when you are upset, your child will ask if you are o.k.

Adapted from From birth to 3: A guide to your baby's developmental milestones. (2000, November/December). *Newsweek.* Pull-out.

APPENDIX D

KNOWLEDGE OF SELECTIVE ATTENTION: TEACHER SURVEY

Knowledge of Selective Attention

Teacher Survey

1.) Have you heard of the "selective attention" approach? **Y / N**

If yes, please describe where you heard it and what you know about it.

_____

_____

2.) Have you heard of starting from a "point of order"? **Y / N**

If yes, please describe where you heard it and what you know about it.

_____

_____

3.) Have you heard of "rule review"? **Y / N**

If yes, please describe where you heard it and what you know about it.

_____

_____

4.) Do you think you could use more guidance with behavior management techniques?

Y / N

Adapted from Jones, J. & Kepner, J. (in press). Learning to use selective attention: How and why. In R.P. Cantrell & M.L. Cantrell (Eds.). *Helping troubled and troubling children: Continuing evidence for Re-ED's ecological approach: Vol. 2.* Cleveland, OH: American Re-Education Association.

APPENDIX E

PLACHECK FORMS

Engaged Behavior
Systematic Observation Worksheet

Collect Baseline Data – records on-task behavior using a placheck (planned activity check) procedure.

Placheck involves the following:

a. Scanning (usually left to right) and counting/recording the number of students who are engaged in the designated task.
b. This scan usually takes about 10-15 seconds to complete
c. Once a student is scanned and counted the researcher cannot return to that student if his/her behavior changes
d. This process can be completed every 2 minutes (scanning interval)

Calculating the percentage of students engaged, requires the following steps:

a. Count the number of intervals scanned (e.g., in a 30 minute class the researcher would scan @ 15 times [once, every 2 minutes])
b. Count the total number of students in the class (e.g., 30 students)
c. Multiply the total number of intervals (e.g., 15) by the number of students (e.g., 30) to get the total score (15 x 30 = 450)
d. Count the total number of students who were on-task across the 15 intervals (e.g., 30 students were off-task)
e. Subtract the number of on-task students from the total number (450-30 = 420)
f. Calculate a ratio (420/450 = x /100) to get the percentage of engaged children.

adapted from McGraw-Hill's public access domain
http://highered.mcgraw-hill.com/sites/dl/free/0072841281/115761/Task4_Systematic_Observation_Worksheet.doc

Teacher _____ **School** _____
Date _____

Interval Number	No. of St. engaged
1.	
2	
3.	
4.	
5.	
6.	
7.	
8.	

Calculate Engaged Percentage _____

Use the steps a. through f. provided on the previous page to help you make this calculation

adapted from McGraw-Hill's public access domain
http://highered.mcgraw-hill.com/sites/dl/free/0072841281/115761/Task4_Systematic_Observation_Worksheet.doc

APPENDIX F

TEACHER OBSERVATION FORMS

Teacher Observation Forms
Verbal Praise, Praise Cue

Teacher Name_____ Date_____

Observer_____

Verbal Praise																			

Praise Cue																			

APPENDIX G

SOCIAL VALIDITY

Teacher Social Validity

Children seemed more engaged after I used the selective attention approach.
Not true Somewhat true Very true

Children liked the extra attention because of the selective attention approach.
Not true Somewhat true Very true

I was satisfied with my training experience.
Not true Somewhat true Very true

I thought selective attention was useful in my preschool classroom.
Not true Somewhat true Very true

I will continue to use selective attention.
Not true Somewhat true Very true

I will use selective attention in other areas of my teaching day.
Not true Somewhat true Very true

I will tell other teachers that they should use the selective attention approach.
Not true Somewhat true Very true

Please provide more information about your experience with training or using selective attention with preschool children.

Parent Social Validity

I think my child is engaged more in circle time activities after the teacher used selective attention.
Not true Somewhat true Very true

My child seems more excited to come to school since selective attention has been used.
Not true Somewhat true Very true

The frequency of my child's incident reports has decreased.
Not true Somewhat true Very true

My child tells me about activities at school more than before selective attention was used.
Not true Somewhat true Very true

My child listens to my directions more at home since the teacher used the selective attention approach
Not true Somewhat true Very true

Please provide more information about your experience about your child's involvement in this research study.

APPENDIX H

TRAINING FORMS

TREATMENT INTEGRITY

Definitions

Student *engagement* is defined as when a child is engaged with activities during circle time. Engagement should be recorded when the student was attending to and manipulating materials; eyes were toward the teacher; participating circle sing-a-longs; group responses; or, speaking with peers during play (Malmskog & McDonnell, 1999). Engagement with activities in circle was not recorded when the student was manipulating materials but not attending to the materials; eyes toward teacher during but talking to peer; talking to peer during teacher speaking; eyes not toward teacher but remaining quiet; or, speaking with peers during teacher speaking time.

Verbal praise (Jones & Kepner, in press) was defined as a teacher's verbalization directed toward the student and contained the student's name and brief description of the behavior (e.g., Michael is getting started, Tom is lining up, etc.). Verbal praise was not verbalizations saying "great job" or "I like the way...".

Praise cue (Jones & Kepner, in press) was defined as verbal praise directed toward a peer, the target child responded to the cue and performed what was expected, and the teacher provided verbal praise to the target child. Praise cue was not defined as verbal praise directed toward a peer and identified child did not respond, directly praising the child, or moving within the proximity of the child.

Scripts for Training

Video Training –

1) Video tape is placed into the VCR.
2) Play button is pressed.
3) Pause button is pressed when video begins playing.
4) Selective attention strategies (e.g., point of order, procedure review, verbal praise, and praise cue) reviewed.
5) Point of order reviewed at initial circle time meeting (pause button pressed).
6) Procedure review was introduced when two or more children were exhibiting undesired behavior (pause button pressed).

Point of Order –

1) A direction is given by the teacher (e.g., "children go sit in circle).
2) The teacher whispers to the children to sit quietly for 20 seconds to reflect on the procedures for the circle time activities (e.g., children sit on their bottoms, sit with their mouths closed, raise hands to speak, etc.).
   - The circle time procedures are stated by the teacher.
   - The teacher whispers that once the quiet reflection is complete, three children will be asked to tell the class one of the procedures.
3) The first two children who sit quietly will be verbally praised for silent behavior.
4) After 20 seconds, the teacher randomly selects three children to state the procedures for circle time activities.
5) Begin circle time activities.

Procedure Review –

When more than two children are engaging in disruptive behavior use the rule review.
1) Discontinue the circle time procedures.
2) Tell children they need to sit quietly.
3) Follow the steps in *Point of Order* (you can decrease the 'think time' to 10 seconds).

Verbal Praise –

1) Use immediately after a child demonstrates the appropriate behavior (e.g., sitting on bottom)
2) Statements should consist of the name of child and the behavior.
3) Use statements such as, "[name of child] is sitting on their bottom", or "[name of child] is sitting quietly."
4) Verbally praise the first two children who demonstrate desired behavior.
5) Convey excitement through your tone of voice.

Praise Cue –

Praise cues are given to a child who is demonstrating appropriate behavior and are to "cue" a child who is not demonstrating appropriate behavior.
1) Verbally praise another child in circle time that is exhibiting desired behavior.
2) Give verbal praise once the target child demonstrates the desired behavior.
3) If the target child does not demonstrate desired behavior after two praise cues, provide the target child with a procedure review (e.g., "The procedure for circle time is to sit on your bottom")
4) When the target child demonstrates desired behavior, use verbal praise.

adapted from Jones, J. & Kepner, J. (in press). Learning to use selective attention: How and why. In R.P. Cantrell & M.L. Cantrell (Eds.). *Helping troubled and troubling children: Continuing evidence for Re-ED's ecological approach: Vol. 2.* Cleveland, OH: American Re-Education Association. adapted from J. Jones (personal communication, 05/01/02)

Treatment Integrity Checklist

Observer _____ Date _____

Reviewed *point of order* techniques with the teacher.	Y	N
• Teacher whispers to the children while stating the procedures for circle time.	Y	N
• Teacher whisper to children that three children will tell the group the procedures	Y	N
• Teacher waits 20 seconds for children to 'think' about procedures.	Y	N
• Teacher verbally praises the first two children sitting quietly.	Y	N
• Teacher selects three children to state the procedures to the group.	Y	N
• Teacher begins circle time activities.	Y	N
Reviewed *procedure review* procedures with teacher.	Y	N
• More than two children violating circle time procedures.	Y	N
• Discontinue circle time procedures.	Y	N
• Tell children to sit quietly.	Y	N
• Follow steps in *point of order.*	Y	N
• Teacher whispers to the children while stating the procedures for circle time.	Y	N
• Teacher whispers to children that three children will tell the group the procedures	Y	N
• Teacher waits 20 seconds for children to 'think' about procedures.	Y	N
• Teacher verbally praises the first two children sitting quietly.	Y	N
• Teacher selects three children to state the procedures to the group.	Y	N
• Teacher begins circle time activities.	Y	N
Reviewed *verbal praise* techniques with teacher.	Y	N
• Use immediately after the first two children demonstrate appropriate behavior.	Y	N
• Statements consist of [name of child] and behavior.	Y	N
• Verbally praise the first two children demonstrating desired behavior.	Y	N
• Convey excitement in voice.	Y	N
Reviewed *praise cue* techniques with teacher.	Y	N
• Cueing children exhibiting undesired behavior.	Y	N
• Verbally praise another child exhibiting desired behavior.	Y	N
• Give verbal praise to target child.	Y	N
• Use *procedure violation review* if target child does not exhibit desired behavior after two praise cue attempts. (e.g., "The procedure for circle time is to sit on your bottom")	Y	N
Reviewed line graph to visually review progress.	Y	N
Reviewed *video tape* as part of training.	Y	N
• Put video tape into VCR.	Y	N
• Play button was pressed.	Y	N
• Pause button pressed when video played.	Y	N
• Reviewed components of selective attention.	Y	N
• Point of order reviewed at initial circle time meeting.	Y	N
• Procedure review was introduced when two or more children were exhibiting undesired behavior.	Y	N
Role played scenarios.	Y	N
Practiced using point of order, praise, cue, procedure review.	Y	N

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