COGNITIVE AND BEHAVIORAL TRAINING

IN THE REGULAR CLASSROOM

REINFORCED BY TEACHER

MANAGEMENT

BY

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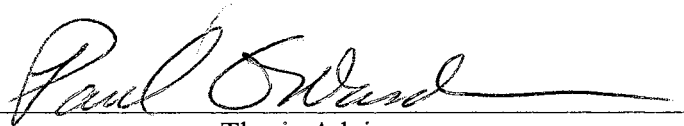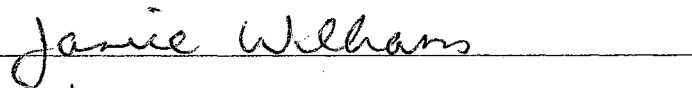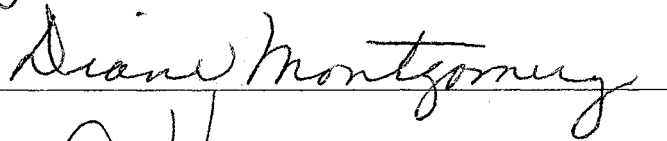COGNITIVE AND BEHAVIORAL TRAINING

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CHAPTER I

INTRODUCTION

Managing disruptive and defiant behaviors of students is a problem of importance in our public school classrooms. This problem has been substantiated through numerous studies conducted in regular classroom settings in public schools (Bacon, 1990; Baretta, 1990; Whendall, 1991; & Whendall & Merrett, 1988). In response to the behaviors that prevent optimal learning for all students, teachers and school administrators have searched for classroom routines and school procedures to promote consistent and appropriate behavior.

Wendell and Merrett (1988) conducted a study with 198 teachers. Fifty-one percent of the teachers responded in an affirmative manner to the question, "Do you think that you spend more time on problems of order and control than you should?" There was not a difference in the gender response. The average class size was 26 and the responding teacher regarded 4.3 students, on average, as troublesome. Three of these students were boys. This supports other studies that boys do tend to be regarded as more troublesome than girls.

When the teachers were asked to choose the most troublesome behavior, 56% of the teachers cited talking out of turn, which was defined as calling out to the teacher when not called upon, chattering about non-work related matters, and making unwanted comments and remarks. Talking out of turn was followed by hindering other students, chosen by 25% of teachers.

Talking out of turn and hindering other students are behavior problems present in the early years of school. Behavior left uncontrolled or inadequately controlled by classroom teachers in the early years of school will create more intense problems as the student continues in the education process (Ladd & Price, 1987). Early childhood defiance, aggression and disruption in our schools are often predictors of later behavioral disorders (Ramsey, Patterson & Walker, 1990). This is particularly important when children with special needs are integrated into regular classes. A good example of this uncontrolled disruptive behavior is evident when a teacher who is attempting to tutor a low-progress reader while being interrupted every 20 to 30 seconds to discipline disruptive students for their misbehavior. The student whose behavior is continually disruptive, or one who is regularly off-task, is seriously educationally disadvantaged. This is evident since academic

engaged time is one of the most important factors of academically progress.

This study was designed to investigate the effect of a specialized, cognitive and behavioral intervention system on disruptive behavior in the classroom. The training program, "Teacher Child Interaction Training"(TCIT) is composed of two components. Component one consists of training provided to the teachers and students. The teachers learn how to implement the program, and the students are taught cognitive strategies to employ and the classroom behaviors that are expected by the teachers. The second component of the system consists of the implementation of the program by the teachers in their classrooms. The two major elements of the program taught to teachers are the use of cognitive strategies or problem solving steps for students to employ when needed and the use of behavioral strategies, or levels of consequences for students who choose not to participate in the expected classroom activity. Students are cued (both verbally and non-verbally) in the classroom so that behavioral expectations are clearly communicated and established. This training program theoretical bases is an integration of cognitive-behavioral training theory and behavioral theory.

This system was employed in heterogeneously grouped third-grade classrooms for the present study. It has been

shown that disruptive behavior patterns emerge early in a child's academic career (Ladd & Price, 1987). In addition, children who experience either harsh discipline or non-preferred consequences in the early years often continue with such behavior patterns (Yates & Yates, 1978). Teacher Child Interaction Training (TCIT) was designed to help students to use problem-solving techniques while the teachers exercise consistent behavioral responses to reinforce expected behavior.

Behavior management techniques have been of vital importance in public school classrooms throughout the years (Paul & Epanchin, 1982). Skinner analyzed and clearly defined the connection between behaviors and their resulting consequences. His conclusions revealed behavioral principles upon which much of human activity had been determined (Skinner, 1963). It has been suggested that most disruptive student behaviors would be avoided if classroom rules were systematically understood and practiced (Walker & Holland, 1979). In this study designed to investigate a classroom process to teach students to systematically practice problem solving skills, a overwhelming majority of the teachers (90%) reported that posting classroom rules was the most effective method used to prevent physical aggression. The rule-posting methods was reported by 88% of the teachers as successful in preventing misuse of objects,

and 74% determined it as successful in curbing verbal aggression.

It has been determined that certain guidelines facilitate the effective use of rules (Paul & Epanchin, 1982). These guidelines were outlined as: (a) rules should be developed by the teacher with input from the group, (b) rules should be stated positively, (c) rules should be kept to seven or less, and (d) rules should be posted.

The effectiveness of time-out in changing student aggression has been documented in literature (Bacon, 1990; Burchard & Barrerra, 1972; Pease & Tyler, 1979; Kaufman, 1981). Others have argued that although time-out is effective, it fails to replace negative behaviors with an alternative behavior (Olsen 1982). The addition of a cognitive element to a behavioral program has been suggested to help the student recognize antecedents to aggressive or defiant behaviors and generate alternative behavior responses (Whendall, 1991). In addition to utilizing posted rules, the Olsen study suggested the students needed replacement behaviors modeled. As a result in this study, a thinking area in the classroom was designated to be used by students to learning self-managing, behavior control skills. Behavior management techniques utilized in conjunction with student instruction of behavior control skills, such as

problem-solving may create a more effective program for managing classroom behaviors.

Teaching problem-solving techniques to students is an important element for classroom management in the nineties. Research supports the importance of making long-lasting changes in behavior by motivating students to believe that they have made the right behavioral choice (Mise & Ladd, 1990). Cognition is the student's ability to deal with prospective problems, influences and performances in the classroom (Bandura, 1989). Learning is a process in which the child can learn from problem-solving techniques. An example of this is when a student recognizes his/her own feelings toward a behavior and determines successful ways to deal with those feelings. Cognitive problem-solving emphasizing structured learning, setting appropriate goals, getting positive feedback, recognizing mastery levels, and verbalizing accomplishments can enhance the success that a student can experience in the classroom (Bandura, 1993). TCIT is hypothesized to facilitates these processes in the student with teachers' reinforcement.

Problem-solving techniques allow a student to learn while he/she is making appropriate or inappropriate decisions. As a result, it seems to allow the student to feel a sense of control over his/her own environment. Classrooms that allow individual students to have a sense of

control over their learning environment tend to maintain on-task classroom behavior rather than maintaining negative or disruptive classroom behaviors (Shure & Spivack, 1980). Using the classroom to build problem-solving skills and allowing the student a regulated amount of control and responsibility tends to reduce disruptive and defiant behaviors (Ruhl, 1985; Zimmerman, Bandura, Albert & Pons, 1992).

Cognitive-Behavioral Management (CBM) theory expands the use of cognitive skills and indicates that students can use problem solving techniques and as a result, self-direct their own behaviors. Meichenbaum (1993) defined Cognitive-Behavioral Management with the use of three metaphors. As a result of CBM, Meichenbaum expected the role of cognition to helping change aggressive motivations and reduce disruptive behaviors. These metaphors include cognition as a form of conditioning, information processing, and narrative construction. The first metaphor, conditioning, enabled the student to act and not to react. The second metaphor, information processing, indicated that the student needed to learn coping skills. During this process the interventionist helps students to become aware of high-risk situations and prepare for the encounters. The third metaphor, narrative construction, helps the students to mold stressful events into more manageable events.

While students learn the use of problem solving in the classroom, teachers facilitate this learning with behavioral reinforcement. One study (Davis, William, Wieseler, Norman, Hanzel & Thomas, 1983) used contingent music and a verbal cue to remind children to stay in their seats during classroom work. Another study (Zentall, 1989) used color to cue students to make better decisions in the classroom. The study used colored cards for non-diagnosed hyperactive students and diagnosed hyperactive students to stimulate the children to make less mistakes during a spelling exam. The use of colors to remind the students was found to be significant. Zentall concluded, however, that motor activity may be less sensitive to color cues than verbal activities.

The present study used the Teacher Child Interaction Training to increase the student's control of his/her behavior through training in cognitive skills thereby decreasing the need for teacher control in behavior management. In addition to training students in cognitive skills, a stoplight system was used to help inform students of the expected behaviors and to constructively manage their verbal and motor behaviors in the classroom. The TCIT system was introduced to the classroom by training the teachers how to employ the cognitive and the behavioral phases of the program. The training for the students was

conducted by the researcher. The stoplight system (behavioral technique) was taught to signal one group of students the appropriate procedures expected in the classroom. Two groups of students were taught to use problem solving procedures (cognitive strategies) in the area of the classroom designated as the thinking area. The problem solving skills taught to the students involved the following techniques:

1. Techniques for identifying the problem;

2. Recognition of feelings;

3. Recognition of choice and consequence;

4. Generation of potential options or solutions to one's feeling or problems;

5. Recognition of the consequences of implementing a solution;

6. Recognition of the importance of practicing the problem solving process.

Students who learn to use cognitive-behavioral techniques in the classroom (TCIT group) were expected to exhibit fewer defiant and disruptive behaviors resulting in time-out. Also, students in the cognitive-behavioral and cueing (stoplight) classroom were expected to exhibit less disruptive behaviors resulting in time-out than the classroom using only the cognitive-behavioral techniques.

Therefore, the pattern of conditioning student's behavior by teacher cueing (behavioral) techniques followed by the student using problem solving (cognitive-behavioral) techniques would result in less disruptive and defiant behaviors. If this pattern of conditioning resulted with the student continuing to exhibit disruptive and defiant behaviors then another behavioral method would be used. The student would then be placed in time-out.

Statement of the Problem

Will the classes using Teacher Child Interaction Training and the stoplight system utilize less time-outs than the class that does not use these conditions? This problem statement addressed the following questions:

1. Will the class using Teacher Child Interaction Training and the stoplight system utilize less time-outs than the class that does not use either of these conditions?

2. Will the class using the TCIT, but not the stoplight system utilize less time-outs than the class that does not use either of these conditions?

The main hypothesis is exploratory and if the overall results are found to be significant other statistical

techniques will be completed. The following hypothesis was tested in this study:

1. No significant differences will exist in the number of time-outs for students in three treatment groups in the morning and afternoon periods across two, four and six week time intervals.

The main hypotheses is: (All B = 0)

The three treatment groups are: one group using TCIT and cueing; one group using TCIT; and, a control group which did not use the TCIT or cueing system.

Purpose of the Study

The purpose of this study is to investigate the effect of a specialized, cognitive and behavioral intervention system on the use of time-out as a consequence to defiant and disruptive behaviors.

There have been many research reports on classroom discipline and the effects it has on behavior in the classroom (Houghton, Whendall, Juke & Sharpe, 1990; Paul & Epanchin, 1982; & Ruhl, 1985). No study has been conducted to clarify the effect of a distinct combination of behavioral principles cued by a stoplight system and problem

solving effects on the number of time-outs in a third-grade classroom. Additional information is needed to determine if the use of colors, such as the stoplight system, effects the number of time-outs in a classroom.

Significance of the Study

Adequate management of learners has been a prerequisite for achievement in the classroom (Clarizio, 1971). Researchers continue to conduct studies that include behavior management techniques with cognitive skills, such as problem solving techniques (Bandura, 1989; Ruhl, 1985; & Shure & Spivack, 1980). Using teacher-employed behavior management techniques in conjunction with student-employed cognitive skills, such as problem solving techniques for the student, may limit the teacher's time spent on disruptive and defiant behaviors. While disruptive behaviors constitute a growing concern in the classroom, there is little formal teacher training at the undergraduate level on the variety of disciplinary measures to use with disruptive and defiant behaviors of students (Whendall, 1991).

Often the complexity of society brings its problems into the school setting. Societal problems today are different from those experienced in the 1950s and 60s. These problems have required schools to develop programs for children who are dealing with such things as poor health,

divorce, abuse, low self-concept, and numerous other
dynamics that may contribute to disruptive and defiant
behaviors. The application of the TCIT system is aimed at
modifying classroom behavior for appropriate classroom
learning. The intention of the intervention system is to
encourage student problem solving with teacher
reinforcement. Results of the study can be used by teachers
who have difficulty in classroom management with students
who make non-compliant behavior choices. Results can be
utilized as guidelines for implementing a more effective
approach for promoting problem solving in managing
disruptive and defiant behaviors of students. The skills
learned by the student and initiated by the teacher will
hopefully be applied by the student for positive social
interactions in the future.

Definition of Terms

The following terms were defined to clarify usage in
the study.

- PCIT

Parent Child Interaction Therapy (PCIT), is a name used
to describe a short term behavioral therapy used in
clinics for remediation of defiant and disruptive
behaviors (McNeil, 1992).

- TCIT

Teacher Child Interaction Training is modeled after a
discipline program derived from Parent Child
Interaction Therapy. Since PCIT is considered to be an
effective short term behavioral program for defiant
children in a clinic, it was hypothesized that it could
be effective in the classroom in a modified state. The
behavioral techniques were taught to the teachers. In
addition, other skills, such as problem-solving
techniques and recognition of feelings were introduced
and practiced with the students before the
implementation of the study.

- Stoplight System

A visible stoplight is displayed in the classroom.
Classroom procedures were jointly determined by
students and teachers of the classroom. These
procedures apply to the three colors of the stoplight;
red, yellow, and green. Its use is to communicate to
students the expected procedures and routines used in
the classroom.

- Defiant Behavior

A teacher determined behavior that negatively
interferes with the learning and instructional

processes of a student or students within the classroom setting.

- Behavioral Therapy

A therapeutic process which concentrates on changing overt behavior rather than one trying to restructure an individual's personality make-up (Forness & MacMillan 1974).

- Negative Consequence

A negative condition that is attached to the time-out or discipline chair. It is assigned case by case and may vary from student to student. Negative conditions assigned to the time-out or discipline chair were comparable to the degree of disruption.

- Reward

A positive verbal reward was assigned to an appropriate behavior exhibited from the student after returning from the thinking area.

- Reinforcement

The attempt to maintain the occurrence or increase the strength of a response given by the teacher.

- Third-Grade Student

A student placed in the third-grade class in a public school in central Oklahoma. Students consisted of

special education and regular education students, regardless of age, placed in the third grade.

- Thinking Area

A designated area in the classroom that is used by the student after the disruptive or defiant behaviors have been determined as unacceptable for the expectations of the classroom routine identified. This determination can be initiated by the teacher or student.

Organization of Study

The study consists of five chapters, a list of references used, and several appendices.

Chapter I includes an introduction to the study, a statement of the problem, the purpose and significance of the study, and the organization of the study.

In Chapter II, literature related to classroom techniques using rewards, teacher's needs and training, acceptability of interventions, rules and behavior management techniques, cognitive problem-solving skill training, and cueing systems is reviewed. In addition, implementation procedures, Parent Child Interaction Therapy and Teacher Child Interaction Training are discussed.

In Chapter III, the research methodology is presented including a description of TCIT, subjects, apparatus,

procedures, and design and statistical analyses of the study.

Chapter IV consists of results, a descriptive analysis and an interpretation of the data.

A discussion to summarize and conclude the study, in addition to the identification of the limitations of the study and recommendations for further research are included in Chapter V.

CHAPTER II

REVIEW OF RELATED LITERATURE

The purpose of this study was to investigate the effects of a cognitive and behavioral management system on the behaviors of children. Initially, literature addressing teacher training and teacher acceptability is examined. Next, classroom management using behavioral techniques supported by praise, combined praise and rewards, isolation and student involvement is examined. Following the behavioral management, cognitive and problem solving techniques is discussed through pre-school classrooms because of the importance and focus of early interventions. Next, Cognitive-Behavioral Management is examined to facilitate appropriate behaviors in the classroom. Finally, classroom management is examined through the use of cueing techniques. The chapter concludes with a description of the Teacher Child Interaction Training (TCIT) along with relative supportive research.

Teacher Training

Teacher training can have an implication for this research. As a result, research will be presented

discussing implementation and procedures for training. Teachers recognize the need to manage their students' behavior but seem confused when their conventional methods do not work. As a result, when student behaviors increase, the teachers seem to be more acceptable of interventions being implemented by others (Tingstrom, 1988).

Little specific training is available for classroom teachers to help them meet their responsibilities in managing classroom behavior. Training that teachers do receive has typically been provided at either the pre- or in-service level and has been inadequate as the recent government report, Discipline in Schools, makes clear (e.g. DES, 1989 with Wheldall, 1991). The findings from a recent study confirm that the vast majority of teachers stated that their personal classroom management techniques were learned on the job, by trial and error (Wheldall, 1991). In the past, there has been limited training in behavior management techniques for teachers (Holloway & Scott-Little, 1992).

When creating a training session to share with teachers a positive behavioral management plan is important. Five principles of positive teaching should be utilized. These techniques need to be considered when incorporating a successful behavior management plan. According to Merrett and Whendall (1990), the five principles of Positive Teaching are:

1. Teaching is concerned with the observable techniques.

2. Almost all classroom behavior is learned.

3. Learning involves change in behavior.

4. Behavior changes as a result of its consequences.

5. Behaviors are influenced by classroom contexts.

Examination of current research of behavior management and successful training techniques for teachers is important in forming a successful behavior management plan for teachers to use in the classroom. One current plan is the Canter Assertive Discipline Model, (Canter, 1976). This assertive discipline model incorporates the principles of positive teaching. Canter proposed a classroom management model aimed at meeting teacher and student needs. The Assertive Discipline model was based upon the theory which included classroom control as a prerequisite to meeting both student and teacher needs. To make the model workable, the teacher was required to be in control of classroom proceedings. Three basic teacher responsibilities for proper implementation of the Assertive Discipline model were proposed:

1. The teacher must establish a classroom structure and the routine to provide the best possible learning environment.

2. The teacher must determine and request appropriate behavior from students.

3. The teacher must ask for help from principal, parents and others when needed.

When reviewing behavioral research, it is important to determine the nature of the behavior problems facing teachers and to measure the typical response given by the teachers. This is critical to designing significant training programs (Wheldall, 1991). Wheldall worked on social validations of behavioral interventions and how alternative child treatment procedures could be investigated. He further validated his findings by using a number of studies that focused on training for teachers (Frentz & Kelley, 1986; Heffer and Kelley, 1987; Kazdin, 1981; Kazdin, French, and Sherick, 1981; Singh and Katz, 1985; Witt, Martens, & Elliott, 1984). Research has identified many facets that influence the acceptability of alternative behavioral interventions. Currently, the most frequently cited facets include: the type of treatment, either positive or negative reinforcement, time required for implementing the plan, severity of the problem behavior, potential adverse causes, effectiveness of the intervention,

and how the individual understands the intervention (Reimers, Wacker, & Koeppl, 1987).

Teachers who are more critical and punitive seem to be less interested in the whole being of the student (Fagot, 1973). Teachers who are warm and receptive to students, rather than powerfully assertive, tend to produce children who score higher on cognitive measures (Clarke & Stewart, 1987). These teachers seem to be more interested in the future development of the child, therefore, influencing the success of the implementations for the student.

In presenting a training session to classroom teachers the presenter must be aware of the teacher's approach to teaching and the amount of acceptability from those teachers. There is a direct correlation between acceptability of a plan to its successful implementation in the classroom. It is important for the researcher to modify the intervention so that it is appropriate for the misbehavior. As a result, the teacher may find the intervention acceptable; therefore, the teacher's level of acceptability of the intervention is increased (Tingstrom, 1989).

Tingstrom expanded the Singh and Katz investigation in 1985. He evaluated the effects of teacher training and acceptability ratings of interventions. Training was provided on general learning principles and four specific

child behavioral interventions (differential reinforcement of incompatible behaviors- DRI; home-based reinforcement program; ignoring; & time-out). The method compared pre- and post-lecture ratings with those of a control group. The results indicated strong support for the educational process in enhancing acceptability of behavioral interventions in the classroom. Tingstrom suggested that these instructions should be educational programs, workshops, and in-service training to enhance teachers' acceptance of behavioral principles and behavioral interventions. Providing consultation alone was discouraged. Consultation coupled with educational programs and/or valid workshops presented to teachers resulted in teachers indicating a more positive acceptance of the intervention. Educational interventions with consultation appeared to enhance the acceptability of various behavioral interventions in the classrooms. One caution was noted with respect to the use of behavioral interventions: instructions and education may make teachers more aware, but they are still insufficient for appropriate implementation of behavioral interventions. Behavioral interventions need to be taught to college students before they enter their career as a teacher (Dixon, Parr & Ellias, 1981). Studies have suggested that acceptability of behavior management plans by teachers is better with

teacher-implemented interventions than for interventions implemented by another person, such as a school psychologist, researcher, or a counselor (Martens 1985).

Witt and Robbins worked around the problem of other individuals implementing the program, experienced by Martens, by having each teacher carry out the same intervention. The researchers concluded that teachers rate an intervention as being more acceptable when they implement it themselves rather than when someone else is responsible for its implementation. Studies were not found in which the school psychologist and the teacher cooperatively implemented a program. Cooperation between the psychologist and teacher is a significant factor to keep in mind while implementing new programs in the public schools. In addition, a compounding variable existed in the study which was carried out by Witt and Robbins. Teachers may have rated the teacher-implemented intervention as being more acceptable, not because they prefer direct involvement, but because the school principal served as one of the other interventionists (Witt & Robbin, 1985).

Statistical support for a behavior management plan increases the acceptability rate of the teachers in training to use the plan. Teachers rated behavioral interventions such as time-out as being more acceptable when statistics of previous studies were presented to them, along with a

description of the program. In other words, the trainer was expected to sell the program to the teachers (Tingstrom 1988).

Also in another study researching students with severe problem behaviors, time-out was found by teachers to be very acceptable and a successful behavior management technique (Witt & Robbin, 1985). Time-out is considered to be more detailed and time-consuming, so it was hypothesized that teachers would not show a preference for direct involvement. The results of the Witt and Robbin study is consistent with previous studies by Frentz and Kelley in 1986 and Marten Wiit and Elliot in 1985, that teachers were more acceptable to time-out when severe behavior problems existed. Furthermore, the severity of the behavior problem is conversely related to the acceptance of the teacher of an intervention being implemented by others (Tingstrom, 1988).

Teachers in the Martens, Witt and Elliot study did not rate descriptions of teacher-implemented time-out as being more acceptable than time-out which was implemented by school psychologists. It is important to realize that the school principal was not involved in the Martens, Witt and Elliot study implementation as he was in the Witt and Robbins study. The main issue, with respect to time-out, is that teachers do not appear to object if another person is responsible for the intervention. Having a school

psychologist implement the intervention may be less threatening to the teacher than having the teacher's immediate supervisor or principal implement the intervention. This research further indicated the school psychologist may be perceived as being more knowledgeable than the principal or classroom teacher about behavioral procedures such as time-out (Martin, Witt & Elliot, 1985). Therefore, soliciting the direct involvement of the school psychologist can be more acceptable in a behavior management program.

Many teachers possess the skills necessary to carry out an effective behavior management program. A study conducted at the University of Hawaii by MacDonald and Gallimore (1992) focused on Introducing Classroom Behavior Management Skills to Experienced Teachers. The results established that teachers possessed the skills that were needed to carry out an effective behavioral program. The study further established that techniques for implementing skills systematically were needed more than learning the skills themselves.

Extensive training time is not necessary for classroom teachers to become effective in utilizing classroom management techniques. MacDonald and Gillmore (1972) focused on the speed in which the teachers acquired skills. It was surprising to find that teachers already had in their

repertoires many of the skills required for behavioral classroom management. The teachers seemed to know what they wanted and how to accomplish it. Other school professionals were called upon to play the role of the consultant. When teachers discovered the effectiveness of their interventions, most of them requested to apply the techniques to some form of learning. In the MacDonald and Gillmore (1972) work the majority of behavior management approaches focused on the positive techniques to reduce negative behaviors rather than negative approaches to discourage behavior. Feeling more secure in their abilities and techniques used with minor classroom assignments, teachers wanted to approach time-consuming discipline problems. Teachers generalized these advanced techniques in the academic setting as well. Students showed an increase in completing their learning assignments (McDonald & Gillmore, 1972).

Teacher training and acceptability is included in this study because research supports the importance of teacher training and its effect on the success of classroom management and problem solving for students. Implementation was a component to this research before the data was gathered.

Behavioral Techniques

There are multiple behavioral techniques that can be
utilized by classroom teachers. The behavioral techniques
to be explored in this study to augment cognitive skills for
the classroom students are praise, combined praise and
rewards, isolation, and student involvement. Studies
demonstrating the effectiveness of each are described in the
following section.

Tangible Rewards

Tangible rewards have a positive effect on the success
of routines and procedures used in the classroom for
students (Workman & Williams, 1990). Therefore, tangible
rewards are important for teachers to enhance appropriate
student behavior.

One behavioral technique is positive reinforcement,
such as a tangible reward. Clarizio (1971) reflected on the
relationship between internal and external rewards and
behavior exhibited in the classroom. He proposed the need
for positive reinforcers for both well-behaved and poorly
behaved students in the mid-elementary grades. His proposal
included a careful application of both tangible and social
rewards. He connected tangible rewards related to the
experience along with the positive social feedback that was
attained from a successful experience. Clarizio's model

was a reward system that included rules that were definable, reasonable, and enforceable (Clarizio, 1971). Clarizio's rules were:

1. Developed by teachers and students;

2. Short and to the point;

3. Phrased in a positive way;

4. Reviewed frequently;

5. Displayed in clear view of the students.

In addition, the following items are issues a teacher must consider during instructional and/or other periods when students are present in the classroom (Kampworth, 1988).

1. The teacher expects good behavior. Instruction is well-paced.

2. Rules and consequences are reviewed.

3. Teacher controls the attention of the group.

4. The teacher emphasizes success, not errors.

5. The teacher models appropriate behavior.

6. The teacher communicates with the students.

7. Teachers have a sense of humor.

There seems to be a very high correlation between rules enforced consistently and good behavioral management. Good behavior managers keep a high ratio of positive statements versus negative statements (Spaulding & Spaulding, 1982).

A behavioral system of rewarding expected behavior with extrinsic rewards or tokens is successful with regular classroom students as well as those who are self abusive (Kauffman, 1981). Occasionally, the school psychologist or counselor has to work with students who are self abusive or abusive to others. In this situation, token systems are the most widely used preventive strategy. A study was conducted utilizing tokens with students who were self abusive. Sixty-two percent of the teachers responding indicated that the use of tokens had a positive impact on controlling student aggression. The token or response-cost system involved both earning and forfeiting points, and used both negative consequences and positive reinforcement (Kauffman, 1981). The study concluded that tokens used properly in the classroom were considered to be valuable.

Tangible or verbal rewards are important in promoting positive classroom behavior. Dougherty and Dougherty's (1977) study used a 'Daily Report Card' as an example of a tangible behavioral reward. A Daily Report Card was used in an attempt to decrease negative behaviors. In this case, a behavior problem, talkouts, and uncompleted homework assignments were targeted (Dougherty & Dougherty, 1977). Baseline data was recorded and compared to data after using interventions, the data was then remediated using a multiple baseline design. The results indicated rapid improvement in

both behavioral areas with little time and effort from the teacher. The use of the card dealing with particular behaviors in the classrooms was considered to be acceptable by most classroom teachers. The Daily Report Card system had an immediate and marked effect on student behavior.

Praise

Another form of behavioral management is that of utilizing praise. Positive Teaching is a system that is based on praise and reward. Many teachers tend to use nagging as a way to control inappropriate student behaviors, although it has been shown to be ineffective and is not recommended (Houghton, Wheldall, Jukes & Sharpe, 1990). Nagging should not be confused with the use of discreet reprimands. Discreet reprimands have shown to have positive impact on behavior control (Houghton, Wheldall, Jukes & Sharpe, 1990). To avoid diminishing the child's positive self image, teachers should use only the lightest intervention strategy necessary to bring about the desired behavior. Using manipulated antecedents and more intrusive techniques can be justified when pupils display more troublesome behaviors. For example, Houghton, Wheldall, Jukes and Sharpe (1990), indicated that when a child consciously chooses to be belligerent and/or strikes a teacher it is justified to use more intrusive techniques.

Discreet reprimands and praise were used in a behavioral management study conducted in a school lunchroom (MacPherson, Candee, & Hohman, 1974). Aides were trained to use standard management techniques. They utilized selected praise and the assignment of an extra classroom task, to decrease disruptive behavior in the lunchrooms. It was clear that the methods were successful with disruptive behaviors; however, when more serious behaviors were exhibited, the use of time-out was necessary. Using games to manipulate the students' activities was found to be useful for disruptive behaviors. Furthermore, simple environmental manipulation of classroom activities had an obvious impact on children's more mild misbehaviors. Intensive training of teachers and aides would be advantageous in managing disruptive and aggressive behaviors on the playground, in the cafeteria, and in the classroom (MacPherson, Candee, & Hohman, 1974).

Praise can be individually directed or group directed. The effect of peer relationships on behavior management cannot be overlooked. Peer influence consists of those reinforcers in which group members share consequences (Greenwood, Carta & Hall, 1988). It has been quite evident that behavior analysis, education, and social psychological literature seemed to indicate that group rewards foster specific social behaviors. The members tend to band

together and the group begins working toward a common reward
(Greenwood, Carta, & Hall, 1988). The behaviors seemed to
be more spontaneous when elicited from an entire group. The
group may receive a reward based on the success of a single
target student, or they may earn a reward based on the
average performance. Consolidation of scores seemed to be
beneficial for the entire group. Group or peer influences
should contain negative consequences, for instance, a loss
of points, which would result in the group loss of a
privilege. In other words, what the group loses comes from
baseline behaviors (Greenwood & Hops, 1976).

The results of the Greenwood and Hops study concluded
the following: whether dealing with peer group or individual
behaviors to be controlled, it is suggested that teachers
reflect on student's misbehaviors as well as on their
appropriate behaviors. The teacher should follow up with
verbal reasons explaining why the child received a reward or
consequence. Teachers who are less authoritarian but
discreet, less critical, and in some way promote student
involvement seem to be better classroom managers (Greenwood
& Hops, 1976).

Also, recognizing antecedents can play an effective
role in classroom behavior management but few studies focus
on this role. Behavior management systems based on the
manipulation of antecedents can have many advantages for the

teacher (Wheldall, 1991). Prevention of the negative behavior can be the best way to promote the student to follow procedures; however, this method is not always possible due to the teacher dealing with large groups.

Combined Reward and Praise

Utilizing multiple behavioral techniques to modify classroom behavior has been investigated as a behavioral management technique. Simmons and Wasik (1973) observed the effect of rewards for on-task behavior on a class of first-grade students. Tokens were utilized with a response cost for on-task behavior for a class of 25 first grade students. The base-line rates of on-task behaviors were relatively high, 53-68%. A six day intervention plan was implemented and it increased on-task time by approximately 32%. Maintenance of the absence of these disruptive behaviors cannot be accomplished with external tangible reinforcement alone (Deitz & Repp, 1973). As a result, it may be necessary to use an approach that combines tokens with praise in order to manage the absence of disruptive behaviors (Deitz & Repp, 1973).

Another study utilizing multiple behavioral techniques involved 24 elementary school students. The students were investigated using the effects of contingent points for praising on-task behaviors (Walker & Hops, 1976). The contingent praise and points were continued for seven to ten

weeks, and the results indicated an increase in on-task behavior by approximately 129% over the baseline. The baseline rate reflected a range from low to moderate. Walker and Hops (1976) used a combined package that initiated basic skill training, contingent points, and praise. Evaluation of this package determined how the on-task behaviors were effected. The students' baseline of on-task behavior was at the 24% to 25% range. After four to five months, the students levels of on-task time increased 159%.

Isolation

Isolation or time-out has been statistically successful when used as a behavior management technique in the classroom (Witt & Robbin, 1985; Frentz & Kelley, 1986; & Marten, 1985). Time-out can be interpreted in many different ways. In the classroom setting, the term generally refers to the placement of a student in a confined area in which social interaction and positive stimuli are restricted. The most appropriate setting is within the teacher's room where the student can be monitored. Other settings include, in a corner or another room, but are usually less effective (Tyler, 1979).

It is important to allow the student to regulate time-out in the classroom, for example, the student being able to physically set a timer to regulate his own time out (Pease &

Tyler 1979). The effectiveness of time-out in changing student aggression has been illustrated in the work of Burchard and Barrera, as early as 1972. It was noted in the Olsen study that whereas time-out can be effective, it fails to replace the behaviors with an alternative behavior (Olsen 1982). Time-out is used in the classrooms as an acceptable technique when the behaviors are severe (Witt & Robbin, 1985). In addition, time-out was projected as a positive technique when implemented by others rather than by the teacher (Tingstrom, 1990).

Student Involvement

In addition to the literature for support of the teacher's role and skills necessary in a behavior management plan, a summary of research related to student involvement is helpful. A successful behavior management program must involve the student and must be easily accessible to each of them. The Safe School Study provided by the National Institute of Education in 1977 encouraged the active involvement of students in the making of classroom rules. It seemed to allow for the student to feel a sense of control in their own environment. At the same time, it is important to regulate the amount of control and responsibility given to a student (Ruhl, 1985).

The concept of student involvement has been studied in terms of aggressive behavior (Ruhl, 1985). Aggressive

behavior in children is recognized as a part of their developmental process. Students spend much of their developmental lives in the school setting (Ruhl, 1985). Most disruptive students' behaviors would be avoided if classroom rules were systematically practiced by students (Walker & Holland, 1979). The use of classroom rules posted in view of the student was reported by 90% of the teachers as the most preventive method used to control physical aggression, 88% of the teachers indicated it was preventive when used to control misuse of objects, and 74% of the teachers reported that posted rules controlled verbal aggression. Guidelines for effective classroom rules commonly include: (a) rules should be developed by the teacher with input from the group, (b) rules should be stated positively, (c) rules should be kept to seven or less, and (d) rules should be posted (Paul & Epanchin, 1982). The study concluded that rules alone are insufficient to prevent aggressive or disruptive behavior. Posting rules needs to be used in connection with other strategies such as contracts, point systems, and implementation procedures. Creating a democratic setting seems to promote positive social development. As a result, rules stimulate less problems in the classroom (Clarke-

Stewart, 1987; Fagot, 1973; Holloway & Reichhart-Erickson, 1988).

To promote positive social development, the classroom teacher must be aware and knowledgeable of controllable or uncontrollable behaviors. One teacher explained, "sometimes he just tunes me out when I tell him to do something; he chooses not to listen." This behavior is considered to be a controllable behavior. For some students, this perception would be inaccurate. For example, an Attention Deficit Disorder (ADD) student may just fail to listen. Teachers who perceive that particular misbehaviors are a result of a lack of self-control, believe that the student would misbehave regardless of the teachers' routines or procedures (Dix, Ruble, Grusec, & Nixon, 1986). Discipline implemented by teachers and directed to students is quite complex and is influenced by the following factors: (a) teacher's attitudes with children, (b) the teacher's own perception of the situation that was exhibited, (c) school policies, and (d) the teacher's philosophy of discipline (Dix, Ruble, Grusec & Nixon, 1986).

Documented behavioral techniques were included in this section, such as tangible rewards, praise, and isolation. In addition, the importance of student involvement has been documented. Next, problem solving techniques need to be supported.

Cognitive Techniques

In academic settings it is important to consider the cognitive aspect of the student. It is important to determine if the student has the ability to deal with prospective problems, influences and performances in the classroom (Bandura, 1989). The cognitive process is a process in which the child can learn from problem solving techniques, for example, recognizing his/her own feelings toward a behavior and how to successfully deal with those feelings. Teacher skills and techniques, such as providing structured learning, setting appropriate goals, giving positive feedback, recognizing mastery levels, and verbalizing accomplishments can enhance the success that a student can experience in the classroom (Bandura, 1993). The climate that a teacher creates in his/her classroom can reduce or create behavior problems. Classrooms that allow individual students to have a sense of control of their learning environment tend to focus on what they can achieve rather than producing distracting behaviors. Consequently, using the classroom to build cognitive skills tends to reduce disruptive behaviors and add to academic achievement. (Zimmerman, Bandura, Albert & Pons, 1992).

Utilizing the classroom to build cognitive problem solving skills is encouraged by social learning theories which indicate that the major element in information

acquisition is facilitating the opportunity to observe and learn from others, either the teacher or the students (Yates & Yates, 1978). Modeling appropriate behaviors in the classroom can help students exhibit similar behaviors (Yates, 1987). In addition, the behavior may change when the situation repeats itself.

During the search for cognitive techniques in the public school setting the researcher found numerous articles referring to pre-school students. The studies completed on pre-school students were generalized to older students. Therefore, it is important to report studies about pre-school students as well as other older students in this research.

Many student's social interaction difficulties in preschool persist into elementary school (Ladd & Price, 1987). In this study cognitive procedures, such as modeling, rehearsal, and feedback were used to organize the students' interaction with peers. The student's apparent understanding of problem solving was found to be significant when interacting with other students. The students made significant improvement in their problem solving skills making the intervention effective. Another surprising finding was the failure to find significant improvements in student's acceptance by peers after improving their inappropriate behavior. Unfortunately, peers do not tend to

accept students with previous behavior problems for a period of time, even after social skills are improved. (Ladd & Price, 1987).

Failure to immediately accept students with previous behavior problems is only one reason to initiate cognitive skill intervention at the preschool level. Second, it appears that individual differences in peer competence begin to stabilize during infancy and are possibly established by preschool. Clear distinctions can be drawn between students' social competence by the preschool level (Howes, 1988). If preschool peers identify a student as aggressive or disruptive, they have a tendency to isolate or disengage in play with the individual by kindergarten indicating the significance of early identification and implementation of problem solving training (Ladd & Price, 1987).

Educating students in the use of cognitive thinking is a key role in building their social adjustment (Shure & Spivack, 1980). Alternative solution thinking, consequential thinking, and causal thinking showed a significant change in the way nursery school students interacted with their peers in the classroom The alternative solution intervention improved the number of alternative solutions given by a child from pre-to-post testing of the kindergarten students. Consequential thinking improved verbal recognition of pre-school and

kindergarten students by using the "What Happens Next Game". Finally, causal thinking actually increased the understanding of the cause-and-effect of an event when preschool and kindergarten students were presented with an interpersonal event. The purpose of this study and others that simulated social skills in young students, was to attempt to mediate healthy human interaction and measure whether it is possible to identify such mediating skills in students four and five years of age (Spivack, Platt & Shure, 1976). The studies had positive results.

It is important to isolate strategies and identify skills that are associated with a student's cognitive learning and behavior in the classroom. The next study found that differential use of behavioral alteration techniques (BAT) has a significant impact on older students' cognitive learning and appropriate behavior such as: immediate reward for behavior; reward from others; teacher/student relationship; personal responsibility; responsibility to class; normative rules; peer modeling; teacher modeling; identification as an expert teacher; and, teacher feedback (Richmond, McCroskey, Kearniey & Plax, 1987).

Using negative consequences effectively can be viewed in isolation as strictly a behavioral approach, but when appropriate and discreet negative consequences are used in

conjunction with problem solving techniques it can facilitate improved behavior for students (Bacon, 1990). Dealing with discipline problems in the classroom seems to be one of the most difficult problem areas for teachers. To facilitate improved behaviors while maintaining appropriate behaviors in the classroom using discipline, the teacher needs to manage the best atmosphere of acceptance possible (Bacon, 1990).

> For many teachers, dealing with punishment and discipline problems is one of the most difficult aspects of their job. Students who consistently break rules and disrupt the classroom can change the climate of a classroom from a relaxed and caring atmosphere into a guarded and anxious one. Teachers can become angry and depressed about being in a situation in which they feel helpless. The students react with fear and hostility and there is very little enjoyment of classroom learning. The consequences of teachers working in a negative, conflictive atmosphere are serious, not only for the teacher but the student (Bacon, 1990).

The next study suggested that when teachers were dealing with large groups, it was important to recognize antecedents. Manipulating behaviors in the environment was

more useful than providing consequences of the behaviors
(Murphy, Hutchison & Baily, 1983). This allowed for
students to use more cognitive skills rather than reacting
to a negative environment due to the discipline
administered.

In this study, the teachers wanted their students to
pay attention to the instructions and work on their own for
a short period of time. Therefore, it is important to
include this section to facilitate an appropriate atmosphere
to present curriculum.

Curriculum, teachers, and physical conditions are
important to building student's cognitive skills in the
classroom. Curriculum can facilitate students' behavior.
When the curriculum is meaningful and well-presented,
students are less likely to exhibit disruptive and defiant
behavior (Jones & Jones, 1986). The teacher is the main
reinforcer. Many teachers fail to recognize their power to
construct or destroy discipline procedures. If the
teacher's attitude is usually one of consistent approval
toward academics, and the teacher capitalizes on this fact
such approval will then strongly enhance classroom
discipline. If the teacher is not reinforcing favorably in
the students' lives, students will need to compensate by
other means. Strong curriculum, linked with motivation and

strong control methods may have to be used (Spaulding & Spaulding, 1982).

Preventive techniques decrease disruptive behaviors in elementary schools (Kampwirth, 1988). Classroom preparation must be included in the area of cognitive skill discussion, as it can have an impact on the effectiveness of the behavior of the student. The following preventative technique were suggested in Kampwirth's study for teachers to consider both before the school year starts and before class begins each day.

Preventive Aspects

1. Creating an attractive and functional room.
2. Consistent rules and consequences.
3. Use an organized plan of teaching.
4. Pre-planned sequence of intervention.
5. Rewarding appropriate behavior.

Cognitive techniques allow students to correct behavior and chose an alternative behavior to be used in its place. Constructing the classroom to facilitate the use of problem solving can be helpful. Whether dealing with preschool students, elementary students or generalized to older students there exists support for combining cognitive and behavioral techniques to produce a more successful intervention strategy.

Cognitive-Behavioral Management

Cognitive-Behavioral Training (CBT) techniques promote students to manage their own behaviors through the use of vigorous encouragement and support. Cognitive-Behavioral Training promotes the control of negative behavior (Jones & Pulos, 1993). Cognitive-Behavioral Training interventions have been directed toward cognitive-social problems and aggressive behaviors (Lochman, 1992). The student must establish a connection between internal cognitive events and overt behaviors. As a result, the student learns to manage her/his social-emotional behavior and reduces inappropriate behavior (Smith, Siegel, O'Connor, & Thomas, 1994).

Three major metaphors identified by Meichenbaum (1993) defined the role of cognition in helping change aggressive behavior. These metaphors include cognition as a form of conditioning, information processing, and narrative construction. The first metaphor, conditioning, was referred to as one of Skinners' "laws of learning" which conditioned individuals to act not react. The second metaphor, information processing, referred to the mind as a computer and indicated that the individual needs to learn coping skills. In the process of developing coping skills the interventionist helps students to become aware of high-risk situations and helps the student to prepare for the encounter. The third metaphor, narrative construction,

helps the students to cognitively reframe stressful events into more manageable events.

The primary focus of Cognitive-Behavioral Training research is on academics and improving academic performance of students in the public schools. Math and reading are usually identified as the targeted academic areas researched. Recently behavioral management research has received attention from the cognitive-behavioral researchers. (e.g. Davis & Hajicek, 1985; Mahn & Greenwood, 1990 with Smith, Siegel, O'Connor, & Thomas, 1994).

A Cognitive-Behavior method called Zipper was established by Smith, Siegel, O'Connor and Thomas (1994). The study involved three fourth-grade special education students placed in a multi-categorical resource room. Zipper was a mnemonic device that stood for "Zip Your Mouth". The steps for self-cues were as follows: (1) stop, (2) make a hand motion for stop, (3) take deep breaths, and (4) run your fingers across your mouth. The next step included making choices, such as (a) saying what can I do?, (b) shrug shoulders, and (c) select an option. The students were introduced to 20 self-statements and physical self-cues to help manage their behaviors. The introduction consisted of six days of training for the students followed by interventions during the study by the researchers. The results indicated that the three students were successful at

learning and using the Zipper method. Two of the students
were able to reduce disruptive behaviors, however, the third
student was inconsistent in using self-statements and self-
cues. Observations were used to record data but the
researcher cautioned others about interpreting these data or
replicating this investigation, because the students would
turn to look at the observers before reacting to an event.

Cognitive-Behavioral intervention and its long term
effects were studied by Lochman (1992) with aggressive boys.
The boys that were identified as aggressive were compared to
boys who were not identified as aggressive three years after
the intervention. The overall intervention did not have
long term effects on the aggressive boys' disruptive
behaviors. However, another subset of aggressive boys was
studied in the same manner with periodic booster sessions to
help improve behaviors. The aggressive behaviors in the
subset of boys were reduced. The 12 students in this subset
received training, again, one year after the intervention
and the parents were taught to reinforce the training.

A strategy called "Calmer" was introduced by Freeman,
Hutchinson, and William (1992) to help high risk teenage
students to manage anger. Each letter represented a step
for students to manage their anger. C-Check for a problem,
A-Assess the problem, L-List possible options, M-Make a
move, E-Evaluate the results of your reaction, and R-Repeat

if necessary. Six activities were established for the students involved in the implementation of the procedure. They were as follows: (1) make a poster of strategies; (2) generate a list of situations; (3) generate a list of actions; (4) role play with a partner while seated; (5) role play with a partner and add action to the role-playing; and, (6) continue the role-play but eliminate the verbal prompts. The Calmer strategy was considered successful with young people for managing their anger. It should be noted that training was conducted in small group counseling sessions within the school environment. Students were pulled out of their classes to conduct the sessions.

Another study using Cognitive-Behavioral Training focused on an indirect approach to elementary students, first-grade through sixth-grade, through the teachers (Gresser, Matthews, Petrides, Reyes, Segarra, 1993). The teachers were taught skills to model to students through five-day staff development programs. The methods that were taught in managing angry students were stepping back, making eye contact, and thinking before responding. In addition, the teachers were taught to use interventions in a non-threatening tone before inappropriate behaviors escalated. The activated emphasis of the program was on power of choice and acting before reacting. According to teachers who were

implementing the methods, classroom behavior had improved significantly.

Cognitive-Behavioral Training (CBT) facilitates self problem solving for students and is usually directed by therapist outside the classroom. These cognitive-behavior skills reflect skills similar to techniques used in TCIT, therefore being relevant to this study. Different than Cognitive-Behavioral Training, TCIT is discreetly defined through cognitive and behavioral techniques used in the classroom. Two additional components appear in TCIT that expand the use of Cognitive-Behavioral Training. The first component involves using teacher behavior management to reinforcement problem solving skills taught to the students. The second component involves the location where problem solving skills are taught to students. The intervention taught by the researcher and the reinforcement carried out by the teacher exist within the classroom environment. Behavioral techniques, cognitive techniques, and cognitive-behavioral techniques can be enhanced with the use of cueing techniques.

Cueing Techniques

Cueing techniques as a subset of literature for behavioral techniques occurs less frequently as an isolated study variable. Cueing tends to be combined with other techniques (Long & Newman, 1980). In addition to the focus

of research for cognitive training, cueing studies also focused on the pre-school years. This section will present studies involving pre-school, kindergarten and elementary students. Cueing or signaling is a technique of informing the student that his or her behavior is unacceptable or that a particular procedure is in force. It can be a nonverbal technique such as eye contact, hand gestures, tapping, coughing, or using a symbol that stimulates the student's awareness of his or her inappropriate behavior. Cueing or signaling a student to stop a behavior is effective when the inappropriate behavior is beginning, and cueing allows for the teacher and the student to interact while the relationship is still positive. This intervention facilitates good modeling from the teacher and allows the student to be stimulated to learn appropriate social skills (Long & Newman, 1980).

Specific cueing signals were used effectively in a class of preschool students (Mise & Ladd, 1990). Skills that were evaluated include: leading, offering positive play suggestions or directions of peers, asking questions of peers, supporting, making explicitly positive statements, and helping or showing affection to peers about an ongoing activity. Although cueing devices were used effectively to help low-socioeconomic students manage disruptive behaviors

in the classroom, it was generalized that this technique could be used with all students.

Cueing has been shown to be successful with low-socioeconomic students and students who have behavior problems in classrooms. In classrooms there are a variety of students with diagnostic disorders such as: Attention Deficit Hyperactivity Disorder, Opposition Defiant Disorder, Behavioral Disorder, Emotional Disorders, etc. It has been substantiated that using stimulation or cueing for children with disorders in the elementary setting has increased on-task time (Zentall, 1989). Zentall and others at Purdue University used colored paper to stimulate or cue hyperactive students to improve copying tasks. This research found that color had a positive correlation with difficult-to-form letters for Attention Deficit Hyperactive Disorder children (Zentall & Kruczek, 1988).

In another study Zentall confirmed a significant color correlation between Attention Deficit Hyperactive Disorder students and the number of correct choices on a multiple choice answer test. He added color to the second half of the test and found that it decreased the amount of mistakes the student made (Zentall, 1989). Color has been found to be an effective cue for Attention Deficit Hyperactive Disorder students.

Verbal cueing in conjunction with music, and then independent of the music has also been effective. Results of using verbal cueing and contingent music were effective in reducing out-of-seat behavior on profoundly retarded males. Generalization was then programmed to the participant's normal classroom setting (Davis, Wieseler & Hanzel, 1983). The teachers were trained to give a command of "No" to the student and raise one hand with the palm up, for the cue to stay in their seats. In addition, music was played as a contingent. When the music was removed the in-seat-behavior remained at 100%.

Wilson used contingent rock music and a verbal cue and found that when paired with a time out procedure, this was effective in reducing the rate of disruptive behaviors for disordered students in a special education classroom (Wilson, 1976). A combination of mediation techniques has statistically proven more successful.

The researcher has chosen to include several types of cueing in the literature review because this study used two levels of cueing. Stoplight cueing was used to stimulate students to follow three different procedures during classroom time while cueing with a soft stuffed bear was used to stimulate a student to go to the thinking area.

Development of TCIT

The purpose of this study is to investigate the effectiveness of Teacher Child Interaction Training (TCIT) and the stoplight system for classroom management as a technique to elicit appropriate behaviors. In addition, three targeted classroom behaviors were individually chosen by the teachers to be used in this study. The development of the TCIT started by manipulating parts of the Parent Child Interaction Therapy (PCIT).

It was important for the teachers to understand the history and development of the TCIT program to be implemented in each classroom for this research. Therefore, it is important to discuss literature related to implementation and teacher understanding. Many of the procedures implemented for teachers fail because communication between the researcher and the teacher is ambiguous and unclear (Baer, Wolf, & Risley, 1968). Understanding of techniques is often unclear because the training of the techniques is usually given in an incomplete format. As a result, many mistakes are made and usually a different, rather than the original objective, is attempted. This will usually result in failure. In order for procedures to be organized and successful there must not be any ambiguity about what is to be implemented. Information needs to be discussed, such as, when the procedure is to be

implemented and the duration of time it is to be used.
Procedures are organized and managed when they can be
repeated and sustained in an identical manner by different
teachers in different classrooms (Ruhl, 1985).

The process of implementing this research was crucial
and as research indicates it was important to communicate
with the teachers used in this study. As a result, the
following paragraphs describes the development of the TCIT
and the studies supporting its many facets.

This study was developed and includes a combination of
PCIT techniques and techniques described in the previous
literature review, such as, behavioral interventions,
cognitive processes, cueing, time-out, positive
reinforcement, and acceptability. As a result, a discreet
cognitive and behavior management program was developed
called Teacher Child Interaction Training.

Aspects of Parent Child Interaction Therapy (PCIT) were
carefully constructed into a cognitive and behavioral
management program that would allow teachers to use clinical
techniques in the classroom. This program is called
Teacher-Child-Interaction-Training (TCIT). Before
examination of TCIT, it is important to examine a few of the
facets of PCIT. The first step in PCIT is scheduling the
parents and the child to attend thirteen sessions at a
mental health clinic for a period of one hour per session.

The PCIT program is divided into two sections: Child Directed Interaction (CDI) which helps the child build a positive self-image, and Parent Directed Interaction (PDI) which is a structured discipline program to be utilized between parent and child (McNeil, 1992). For the first three one-hour sessions in the clinic, the parents are taught how to help build the self-concept of their child. Parents are taught to use such methods as positive reinforcement, play therapy, ignoring small negative behaviors, and how to use clear, simple, understandable statements that the child can understand (CDI).

The following three sessions are focused on the PDI program teaching appropriate discipline, using simple assertive commands, and how to constructively follow through with discipline with discreet reprimands. The following seven sessions are conducted in an appropriate setting in the mental health clinic. During the sessions the parent proceeds to engage the child by using CDI and PDI techniques in a small room with a one-way mirror. The psychologist is in the adjoining room observing the interaction. In addition, the psychologist is speaking into a microphone connected with a transmitter located in the ear of the parent, so that the child is not aware of the communication. Descriptions of appropriate interaction and discipline

procedures are being described to the parent as the child displays on-going behaviors.

Located in one corner of the observation room are two chairs. The first chair is called the time-out chair in which the child will be placed when he/she fails to complete a simple command given by the parent. The child will have three seconds to respond in order to avoid being placed in time out. If the child is placed in time out, the following rules apply: (1) you cannot rock the chair; (2) you cannot move the chair; (3) you have to keep 51% of your body on the chair; (4) you can not make any noise; and (5) you have to face the front. If the child breaks a rule in time-out, he/she will be held therapeutically with a single basket hold in the second chair called the holding chair. The TCIT program uses the second chair as a discipline chair in which negative consequences occur. No holding technique will be completed in the TCIT.

A therapeutic hold consists of the parent physically holding the child in the chair without providing a nurturing closeness, under the directions of the psychologist. Techniques are used to provide safety for the child and the parent. When the child calms down and agrees to follow the parent's assertive command, the child must go back to the original command and complete the task the parent initially requested. Several sessions may have to be used to get the

child to consistently respond in a positive manner to the parent's commands. The final sessions are targeted for social discipline, in which role playing is done to help the parent to discipline their child in society (McNeil, 1992).

TCIT is a theory-based classroom cognitive and behavioral program. The description of the TCIT program is described with relevant theoretical research support. The relevant research was described in previous literature and now will be applied to the TCIT development.

The TCIT is derived from many aspects of the PCIT along with numerous additions from problem solving to stimulus response conditioning. The clinic setting is much more controlled than the school setting. In the school setting necessary changes were made to accommodate legal, cognitive and behavioral issues present within the public school.

TCIT begins by providing a workshop for certified teachers so that they can understand the background and rational of the cognitive and behavioral programs. This is important because of the research provided by Baer, Wolf and Risley (1968). It is important to sell the program, give empirical data supporting the program, and accurately describe the techniques to be used so that the teachers are enthusiastic to begin the training. Two other training sessions were scheduled with each teacher so that the teachers could describe group dynamics and target procedures

could be selected. The use of routines were supported in the classroom to facilitate less disruptive behavior (Jones & Jones, 1986). Supplemental to the training sessions, scheduled visits were made to the teachers' classrooms to maximize the setting for the TCIT program. Classroom preparation is supported in research (Kampworth, 1988). TCIT began by manipulating the classroom. This involved designing the time-out area that was to be set-up within each classroom. The time-out area was positioned in the room so that the teacher could use her peripheral vision to monitor the procedure. Time-out was to be a negative consequence that provided isolation for the student. A partition was used in order to provide the isolation. There were no visual stimuli in the time-out area except for the rules for time-out. It is important that the time-out space was an area where the student could not see the classroom or other students. A corner with a five feet by seven feet partition was used in this research. This will enhance the effectiveness that time-out has on the student (Pease & Tyler, 1979). In addition, the student lost five minutes of recess for going to time out.

Inside the time-out partition there were two chairs, the first one was labeled the "time-out chair" and the second one was labeled the "discipline chair". The time-out space was located in the appropriate position in the

classroom to limit the amount of attention given to the child. Therefore, it was necessary to know where the teacher was going to spending most of his/her time in the room when the student was placed in time-out. If the child had to go to the time-out chair he/she would be assigned a negative consequence, sit in time-out for five minutes and lose five minutes of recess. If the child broke the rules of time-out he/she would then have to be placed in the discipline chair. Then the child, for example, would receive a more severe negative consequence, lose an entire recess. Positive reinforcement and negative consequences were supported in the classroom to reduce disruptive behavior (Bacon, 1990). If the rules were broken for the discipline chair, the child was then sent to the principal for further selected discipline and the parents were called. The rules for the time-out chair and the discipline chair were: (1) no noise; (2) no rocking the chair; (3) no moving the chair; (4) face the front; and (5) 51% of the body has to be on the chair at all times.

A retracing process of discipline was required for the child to re-enter the classroom. For example, if the student was sent to the principal he/she must accept the consequences from the principal and then go back and sit in the discipline chair for a designated amount of time before proceeding to the time-out chair for a designated amount of

time. Following the completion of time-out the student had to comply with the original procedure given by the teacher. Therefore, the teacher has created a learning process for the child. The student would have to complete the original command from the teacher.

A thinking area was established in a separate part of the room that was conducive to positive environment and appropriate for problem solving techniques. This is supported by allowing students some control of their environment (Ruhl, 1985 & Bandura, 1993). In addition, cognitive-behavioral techniques are supported by encouragement, support, and reassurance (Jones & Pulos, 1993). Also, the use of techniques to stop a student to think and problem solve was supported (Lochman, 1992). It was comfortable for the student and the student was allowed to stay in the thinking area for up to five minutes. However, if the teacher thought more time was needed for the student, then he/she could allow the student to stay in the thinking area for longer amounts of time. The thinking area was to be used when the teacher identified a negative behavior exhibited by the student who was not following the designated routine. At that point the teacher placed a symbol, a small stuffed bear, on the desk of the student exhibiting the behavior. Research supports cueing to stimulate student behaviors (Murphy, Hutchinson & Baily,

1983; & Mize & Ladd, 1990). As a result, the student was to precede to the thinking area, therefore, stopping further undesirable behavior. The student was allowed to place himself in the thinking area only when he understood and realized the use of the thinking area. This was to help the student to avoid an unpleasant confrontation.

In the thinking area the student filled out a feeling and problem solving sheet, that was placed on the teacher's desk at the end of the period in the thinking area. Use of causal thinking or cognitive processes is supported for students in the classroom (Shure & Spivack, 1980; & Spivack, Platt & Shure, 1976; Lochman, 1992; Smith, Siegel, O'Connor, & Thomas, 1994). Next, the student was to proceed back into the classroom exercise and exhibit the solution he/she decided upon when he/she was in the thinking area. If this was completed the child was then rewarded. The rewards were a verbal or tangible reward. Rewards have a positive impact on retaining a desired behavior (Kaufman, 1981).

In addition to setting up the time-out chairs, the time-out rules, and the thinking area the teacher needed to develop two or three routines in which she wanted to implement in her classroom. Routines are supported to reduce disruptive behaviors in the classroom (Paul & Epanchin, 1982; & Jones & Jones, 1986). These were placed in a visible area in front of the classroom. The routines

for the three teachers were as follows: routine one, silent
time for each of four subjects in which the student had to
stay in their seat and not talk; routine two, work time for
each of four subjects in which the student had to stay in
their seat unless they were going directly to a work tray or
they could hold up their hand for the teacher to assist them
with their assignment; routine three, normal activities in
the classroom. Routine one was used for five minutes and
procedure two was used for ten minutes. Routine number
three was used the remaining amount of time. Alternative
routines could be established; however, in this study the
three routines described above were used.

There was one additional facet necessary for a
successful TCIT program. This was observed after a pilot
program was implemented at an elementary school in central
Oklahoma. It was necessary to allow the certified teacher
the flexibility to use the TCIT program or to disengage from
the program. In reviewing the literature for behavioral
management programs in the classrooms, the researcher did
not find data on any system that allowed a teacher to abort
the behavior program and re-initiate after a period of time.
Nor did the researcher find a study that used color cueing
to stimulate three desired routines. That capability was
added to the TCIT program during the study of the pilot
program in the Tulsa area. The stoplight system was

developed to augment the termination of the process. The stoplight consisted of a posterboard in the shape of an electronic stoplight and three circled disks colored red, yellow and green.

In later pilot studies the stoplight was used to cue the following, as was done in this research: While the red light was "on" the following routines applied: routine(1) stay in your seat; practice silence; you may only get items out of your desk. The yellow light rules were: routine(2) stay in your seat or you may take a paper directly to the paper tray; you may raise your hand; and wait for the teacher to call on you. The green light rules were: routine (3) normal everyday activities; practicing in house behaviors; and in house voices. The stoplight system allowed for the teacher to be predictable to the students. More importantly, it allowed for the students to receive a stimulus, the visual colored stoplight, to initiate cognitive thinking. Color cueing was supported by using colored cards to stimulate behaviors in the classroom (Zentall, 1989).

Proper implementation was a vital part of the program. The researcher concluded two workshop sessions with the teachers discussing all aspects and facets of the program before the program was implemented in the classroom. The researcher would see that a poster with the time-out rules

were directly in front of the time-out and discipline chairs. Also, that a chart was made and placed in front of the classroom with the three routines for the children to follow

Following the above approved conditions, the researcher entered the classroom and implemented the TCIT program with the students. It is important to have the children's attention so a game called "Simon Says" was played. This required the students to listen closely, therefore, practicing good listening skills. The winners of the game were rewarded. However, the students who had to drop out of the game and did so without complaining, received a larger reward, shifting the emphasis to listening and following procedures and routines.

After the researcher had the student's attention and had emphasized the importance of listening, the researcher described the time-out area (time-out & discipline chair), the time-out rules, the thinking area, the thinking area procedures and the discipline learning procedure. Listening skills were checked periodically during the implementation and at the end of each description. At this time, role playing was done with the students to enhance the students' understanding of each routine. Understanding of the procedures and routines was vital to the student and teacher for the success of an implemented program (Reimers, Wacker &

Koeppl, 1987). Again, the students were allowed to ask questions.

Cognitive techniques were supported in research to facilitate appropriate behaviors (Bandura, 1993). The problem solving skills that were taught to the students in group one, using the TCIT and cueing, and group two, using only the TCIT, during the implementation consisted of the following:

1. Techniques of identifying of a problem;

2. Recognition and awareness of feelings;

3. Being cognizant that one cannot immediately change one's feelings, however, one can choose options to act upon as a result of one's feelings;

4. Becoming aware of the options or solutions to one's feeling or problems;

5. Recognition of the importance of making and implementing a solution;

6. Recognition of the importance of practicing the problem solving process.

The skills were taught to the student through group lectures, discussion and role playing. Finally, the introduction of the stoplight system was introduced and explained to group one who used the TCIT and the cueing system. An explanation of how silent time is good for

individuals to focus attention and how it can be helpful for us to organize our thoughts was introduced. An explanation was given about the stoplight. Attention was given to the procedure for each color of the light. The students were made aware of the different behaviors allowed with each color. Each time a light color was talked about it was introduced visually, auditorially and by role playing. The teacher repeated these steps when she began using it in the classroom. Role play was used to reinforce each facet of the implementation of the TCIT program as well as with the stoplight system for the appropriate group.

The last facet of the introduction was transferred over to the teacher in a role play version that she conducted with the students. The teacher designed a role play scenario of her choice and took control of its direction. Teachers are more receptive to techniques implemented in the classroom when they have been a part of the implementation (Tingstrom, 1989). When the use of visual stimulus such as a stoplight system is introduced visually, auditorially and by role playing it may increase the children's understanding resulting in less disruptive behaviors.

The purpose of this study was to investigate the effects of a cognitive-behavioral management system called TCIT on the disruptive behaviors of students in three third-grade classrooms. One classroom used TCIT and a cueing

system while the second classroom used only the TCIT system. The third classroom was a control group and did not use the TCIT or the cueing system.

CHAPTER III

RESEARCH METHOD

The purpose of this study was to investigate the effect of a cognitive behavioral training intervention, Teacher Child Interaction Training (TCIT), on the number of student time-outs in third-grade classrooms. This chapter discusses the method used to conduct the study. After a description of the subjects, the apparatus and structures needed to implement the TCIT is described. The details of the data collection, instrumentation, and procedures are followed by a description of the research design and data analysis.

Subjects

The subjects in this study were students in third-grade, self-contained, general education classrooms of twenty to twenty-five students each. This study provided anonymity for all student participants. The school district is located in central Oklahoma and has a total student enrollment of 1,550 in grades pre-school through twelve. The study was conducted in the elementary school serving a total of 760 students. All students in three of six third-

grade classes were invited to participate. Student socio-economic status is indicated in Figure 1 by the percentage of the population receiving free lunch (56%). Free lunch status often serves as an indicator of socio-economic status in district settings. The ethnicity of the elementary school (see Figure 2) is 3% Black, 26% American Indian, 1% Hispanic, 1% Asian and 69% Caucasian.

▨ Students receiving
Free or Reduced
lunches 53%

▤ Students receiving
Normal lunch fees 47%
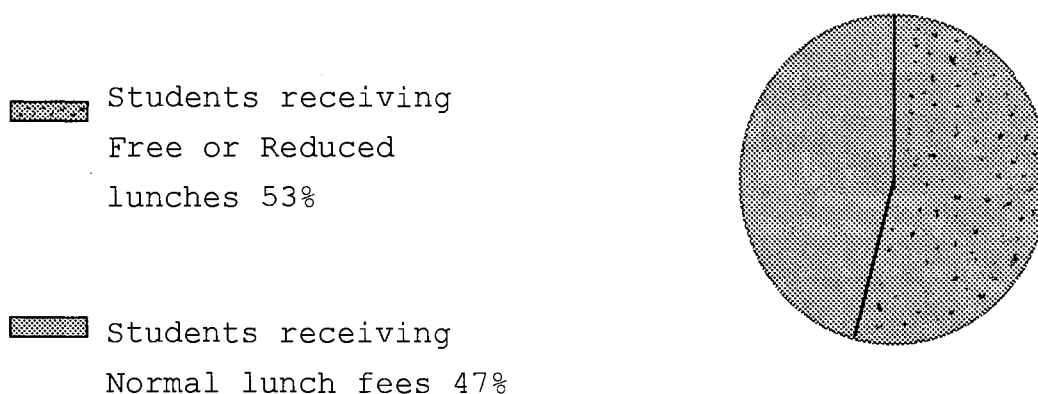
Figure 1. Free-lunch status of students in the school district

All students who were included in the study treatment groups (classrooms) were invited to participate in the study. Parental permission was obtained from each student (100%). See Appendix A: Parental Permission Form. Students were informed of the study by the researcher and were informed of their rights to withdraw from the study.

Data were collected from all subjects, including those students who were identified as learning disabled (7%) or gifted (27%). No student in any of the three classrooms was

identified as one with severe emotional disturbance, nor
were any referred for such testing.
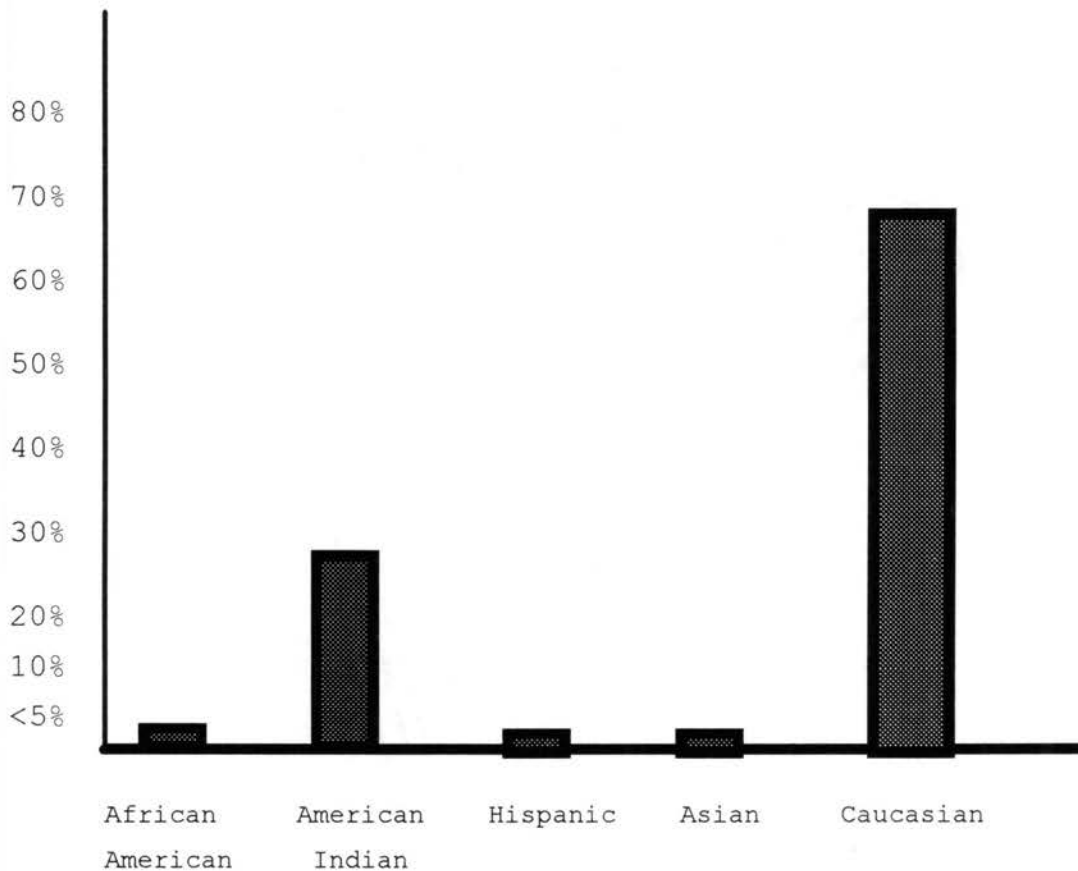
Figure 2. Ethnic characteristics of students within the
school district.

There were five students with learning disabilities,
distributed nearly evenly across the three groups (two in
each treatment group and one in the control group). The 19
students who were identified as gifted were evenly
distributed across the three groups (six were in each
treatment group and seven in the control group).

Apparatus and Structures

The purpose of this section is to identify the structures that needed to be designed and placed in the three classroom before the study began. It was essential for these items to be placed appropriately and esthetically in the same manner in all three classrooms. However, the control group did not have the thinking area.

In each of the three individual classrooms or treatment groups, the teachers had a time-out section in a back corner. It was vital that the teacher could see into the time-out area while the students were serving time-out. This was important to ensure that each student was following the time out rules. Each time-out area was constructed with a five by seven feet solid panel. There were two chairs behind the panel; the front chair was the time-out chair while the second chair was the discipline chair. The chairs were labeled "time out chair" and "discipline chair" on the back. A student would only be placed in the discipline chair when she/he would not follow the rules for the time-out chair. In addition, if the student could not follow the discipline rules she/he was sent to the principal. The time-out and discipline rules were: no talking; face the front; and place your feet flat on the floor. The chairs were an appropriate size for third-grade students. There was a timer located at the entrance of all the time-out

areas so that the student could set their own 5 minute time period. All items were removed from the time-out area except a list of the time-out rules.

In addition to the time-out chairs, the placement of the thinking area was important. The thinking area was an area designed in the two treatment groups, the TCIT and cueing group and the TCIT group, where the student could use problem solving skills. This area was away from the time-out chairs and was visually comfortable. In this area problem solving would be completed in written form. Two sheets were established and placed in the thinking area, one with a space to draw feelings followed by two questions. The second sheet contained examples of feeling faces to be drawn. See Appendix C.

Finally, poster boards were constructed for each classroom which listed classroom procedures. The teachers and the researcher met to determine these procedures. The teachers described two main problems that they were experiencing in their particular classrooms. These problems consisted of students not listening to instructions and not using their time efficiently by working on in-class assignments. As a result, classroom procedures were established and placed on posterboards directly in front of the students. The procedures were written in bold type and placed on identically colored posterboards. The three

procedures for all three treatment group, are listed as follows:

Procedure # 1 (used for 5 minutes): Students will

    a. refrain from talking

    b. remain in their assigned seats

    c. listen attentively to instructions

Procedure # 2 (used for 10 minutes): Students will

    a. refrain from talking

    b. may raise their hands anticipating teacher response

    c. may leave their seat and go to their work tray

Procedure # 3 (remaining time): Students will

    a. resume normal interactive school behavior, for example, peer interaction and uninhibited classroom movement

The first treatment group, the TCIT and cueing group, had a stoplight located in the front of the room to cue students when specific procedures or routines were to be used. The stoplight was made of posterboard one foot across and two and one-half feet long. There was a velcro pad on the stoplight where the teachers could post the red, yellow or green light to signify the specific procedures that were in force. The red light was used with procedure number one,

the yellow light with procedure number two and the green
light with procedure number three. The second treatment
group using only the TCIT and the control group had the
procedures on the poster board in front of the class, but
did not use a stoplight to cue student behavior.

Procedure

The teachers agreed to participate in the study as a
condition of the training and consultation on the Teacher
Child Interaction Training system. Each teacher selected
went through a procedure to maintain similarities in
discipline referrals and in the behavioral techniques used.
This process helped control for the variation in teaching
style, a potential confounding variable.

As the initial screening step, the principal was asked
to describe the six third-grade teachers in the selected
school. This description included the principal's opinion
of their techniques in handling disruptive and defiant
classroom behaviors.

As a second step, the principal provided a list of the
number of behavioral referrals from each third-grade
teacher. The teachers with the least and the greatest
amount of referrals for behavior problems were not selected
for the study. Additionally, those rated low or high in
classroom management, such as handling defiant and
disruptive behaviors, were eliminated from the sample. The

teachers were all omitted or selected to insure a moderate sample of teachers managing classroom behavior. The teachers chosen for this study were the three teachers with the median skills for handling disruptive and defiant behaviors. These teachers were all in the middle range for turning in referrals for behavior problems. The three teachers used in the study referred approximately three to four students per two week period to the office for behavioral problems during the previous seven months of the school year.

These three teachers were then randomly assigned one treatment level: TCIT coupled with the stoplight; TCIT only; and control (no TCIT or cueing). Each of the three teachers used in the study were instructed to refrain form discussing the procedures and results of their classroom to other teachers.

Written consent for participation was obtained from each teacher involved in the study. Also, the teachers were asked to sign a letter that said they understood the purpose of the study and the procedures to be used. See Appendix B.

At the outset of the program the researcher presented an hour long training session to each participatory treatment group. The TCIT and cueing group and the TCIT group received the TCIT training presented by the researcher. In addition, the TCIT and cueing group was also

introduced to the use of the stoplight system. The third treatment group was the control group and did not receive the TCIT or the stoplight system. However, the control group would follow the same time lines as set-up for the other two treatment groups. Teachers of the TCIT and cueing group and TCIT group were taught TCIT through two 1 1/2 half hour workshops conducted before the teachers entered the study. In addition, the researcher visited each teacher's room twice prior to the start of the study. Focus on the apparatus and the procedures were discussed during these visits. This controlled for other potential nuisance variables, such as the structure of the thinking and time-out area where the procedures would be posted, how the procedures would be stated, and how time-outs would be directed.

The next level of training involved reinforcing teachers to use behavioral management methods. TCIT is comprised of cognitive techniques reinforced by minimal behavioral modification techniques from the teacher. The teachers were taught the following behavioral skills in group workshops and individual sessions: use of three desired rules described as procedures and routines; reinforcing the procedures; providing explanations to students why procedures and routines are important; use of positive reinforcement for using good problem solving

techniques; ignoring students for minor negative behavior; organizational skills; and, being firm with assertive commands without criticism. The teachers in the TCIT and cueing group and TCIT group were taught to decrease verbalization during discipline and to use symbols to direct student behaviors.

Two levels of cueing were used for the TCIT and cueing group. First, cueing was initiated by using a stoplight with green, yellow and red lights in the group using the TCIT and cueing to stimulate the TCIT procedure and routines used at that time. Failure to respond to the procedure in an appropriate way resulted in a second level of cueing. The second level of cueing consisted of the teachers in the TCIT and cueing group and the TCIT group cueing students to go to a thinking area where the student used problem solving techniques. This was done by using a symbol, a small stuffed bear. The cue or bear was placed on the students desk stimulating the student to go directly to the thinking area. Students in these two treatment groups who used the thinking area and still displayed an inappropriate behavior were then directed to time-out. The second treatment group used only the TCIT training while the control group did not use the TCIT or the stoplight system. Students that chose to break the procedures in control group were placed directly in time-out.

The researcher-directed implementation with the students took place within the classroom setting. At this time, problem solving techniques were verbally explained to the students in the TCIT and cueing group and the TCIT group. The techniques taught to the students included strategies to make them aware of their feelings at the time of an infraction of procedures. One such strategy was the completion of a feeling sheet that appears in Appendix C. This sheet centers on problem solving skills that were taught to the students in the first two treatment groups and consisted of the following skills:

(1)   Techniques of identifying a problem;

(2)   Recognition and awareness of feelings;

(3)   Being cognizant that one can not immediately change one's feelings, however, one can choose options to act upon as a result of one's feelings;

(4)   Becoming aware of the options or solutions to one's feeling or problems;

(5)   Recognizing the importance of making and implementing a solution;

(6)   Recognizing the importance of practicing the problem solving process.

The problem solving sheet encouraged students to create alternative problem solutions. In addition role playing was utilized to increase acceptance by students and encourage their use of more appropriate behavioral choices. The researcher entered the treatment groups once each week during the study to reinforce problem solving.

The method used to reinforce students consisted of short lectures, discussion and role playing. The sessions were completed in twenty-minute time periods. In addition, the school counselor reinforced the training to students in all three groups who used the thinking or time-out area more than three times a week. The previously stated cognitive skills were reinforced through group discussion, role playing and mutual story telling techniques. The researcher and the counselor met weekly to discuss problem solving techniques and methods of reinforcement to students.

Teachers reinforced the learning that was taking place in their classrooms. This was done through the posting of classroom procedures and routines, through positive reinforcement, cueing through the use of the stoplight, and, as a last resort, through negative consequences. The teachers collectively chose three targeted procedures and routines. The teachers wanted the students undivided attention during the first five minutes of instruction when beginning a new content area (English, Math, Social Studies

& Reading). As a result, each treatment group followed procedure # 1 (See Figure 3) for five minutes for the first subject while academic instructions were given. A second content domain was introduced in the morning in a similar manner. Two additional content domains were introduced in the afternoon in the same manner. During these silent times in the treatment groups the TCIT and cueing group was stimulated to follow the procedure by the teacher engaging the red light and attracting students' attention to the light. The other two teachers would only engage this quiet time verbally. The teacher used this red light time as a silent time or to give instructions for an assignment. The TCIT and cueing group began the silent time by using the stoplight to initiate the five minute period and the other two treatment groups initiated it verbally (See Figure 3). The stoplight system in the TCIT and cueing group was an attempt to provide a stimulus to encourage students to cognitively think of the procedures being followed and recall the role playing that was done during the program implementation. As the color of the light changed, the procedure of routines changed.

After the five minutes of silence, each treatment group had a 10 minute period of time in which the student would follow the same procedure as the red light, but they could raise their hand to ask a question. The students needed to

wait for the teacher to call upon them (procedure # 2; See Figure 3). In addition, the students could go directly to their work tray.

This period was to be initiated by the TCIT and cueing group with the use of the yellow light. The teacher secured the attention of the students and announced that the yellow light procedures were now being used. The other two treatment groups would have this time initiated by a verbal command. After this ten minute yellow light time the teacher in TCIT and cueing group would initiate a green light time to be used for the remainder of the day. Normal classroom procedures applied at this time (procedure # 3; See Figure 3). The teacher in the other two treatment groups would verbally announce this change.

Students in the TCIT and cueing group and TCIT group who chose to break either procedure number 1, 2 or 3 were directed to the thinking area by a cue, stuffed small bear, by their teacher for problem solving techniques. The bear was placed on the student's desk and the student would go directly to the thinking area. The materials utilized in the thinking area appears in appendix C. Students breaking these procedures in the control group were directed into time-out by their teacher. Students unsuccessful in the thinking area and again participating inappropriately in the classroom procedures from the TCIT and cueing group and TCIT

group was directed to time-out, only after they had failed to make appropriate decisions in the thinking area.

23 Students   24 Students   23 Students
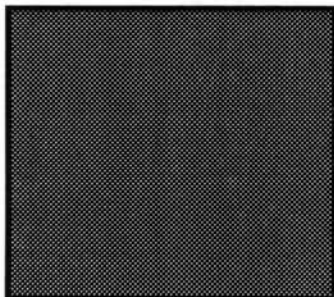
| TCIT & CUEING GROUP | TCIT GROUP | CONTROL GROUP |

1 Silent time for each of 4 subjects TCIT-Initiated by a red light (5 minutes) Procedure: stay in your seat seat and listen to direction

1 Silent time for each of 4 subjects TCIT (5 minutes) Procedure: stay in your seat and listen to directions

1 Silent time for each of 4 subjects (5 minutes) Procedure: stay in your and listen to directions

2 Work time for each of 4 subjects TCIT-Initiated by a yellow light (10 minutes) Procedure: stay in your seat and raise your hand for help; you may go to your work tray

2 Work time for each of 4 subjects TCIT (10 minutes) Procedure: stay in your seat and raise your hand for help; you may go to your work tray

2 Work time for each of 4 subjects (10 minutes) Procedure: stay in your seat and raise your hand for help; you may go to your work tray

3 Regular daily activities TCIT-Initiated by a green light (remaining time) Procedure: normal activities use in-house voice and behaviors

3 Regular daily activities TCIT (remaining time) Procedure: normal activities use in-house voice and behaviors

3 Regular daily activities (remaining time) Procedure: normal activities use in-house voice and behaviors

Figure 3. Procedures (targeted behaviors) for the three treatment groups (classes):

Students making appropriate decisions in the thinking area, and witnessed acting on these decisions in the classroom were positively reinforced with verbal praise.

The number of time-outs earned for each student in each treatment group was recorded by the individual teachers for the day, morning and afternoon. The privacy of the child was protected by assigning each student a random number. An individual record sheet was given to each teacher and then collected on a weekly basis. The teachers were instructed not to share information about their treatment group with other teachers.

The researcher collected the recording form weekly and clarified any questions that had arisen during the week. The record forms contained the following information: teacher number; chronological number of the week of the study; the date; a column for each day of the week separated by morning and afternoon times; symbol (T) to identify a time out, and a symbol (A) to signify if the student was absent. This record form is provided in Appendix D. Each teacher was given a recording form and provided with a one hour workshop on how to record the data. The data were recorded for a period of six weeks or thirty school days. Keeping track of the number of time-outs in each classroom for two, four and six weeks allowed the hypothesis to be tested.

Three treatment groups or classrooms were monitored. The first treatment group received in combination the TCIT training and the stoplight system. The second treatment

group received only the TCIT training while the third group, the control group, did not receive the TCIT training or the stoplight system. Furthermore, the results were examined in the morning and afternoon across two, four and six weeks. The number of time-outs recorded for students in each group served as the single dependent variable. The null hypothesis was stated: No significant differences will exist in the number of time-outs for students in the morning and afternoon periods across two, four and six week time intervals. Additional exploratory statistics were used as follow-up analyses. These exploratory statistics focused on two specific questions:

1. Will the group using Teacher Child Interaction Training and the stoplight system utilize less time-outs than the group that does not use either of these conditions?

2. Will the group using the TCIT, but not the stoplight system utilize less time-outs than the group that does not use either of these conditions?

Design and Statistical Analyses

A 3 X 3 X 2 Mixed ANOVA was conducted to answer the central research question: Does the number of time-outs per group differ depending on the week and time of assessment? In this analysis, group (3 levels) was a between variable, with week (3 levels) and time (2 levels) serving as repeated

measures. Unequal numbers of students were observed in treatment combinations. Figure 4 presents a schematic diagram of the variables in this analysis.

TIME   (Within variable)

Morn.

After.

6

4

2   WEEKS

LGT & TCIT   TCIT   CONTROL   (within variable)

Treatment Groups (CLASSES)   (between variable)
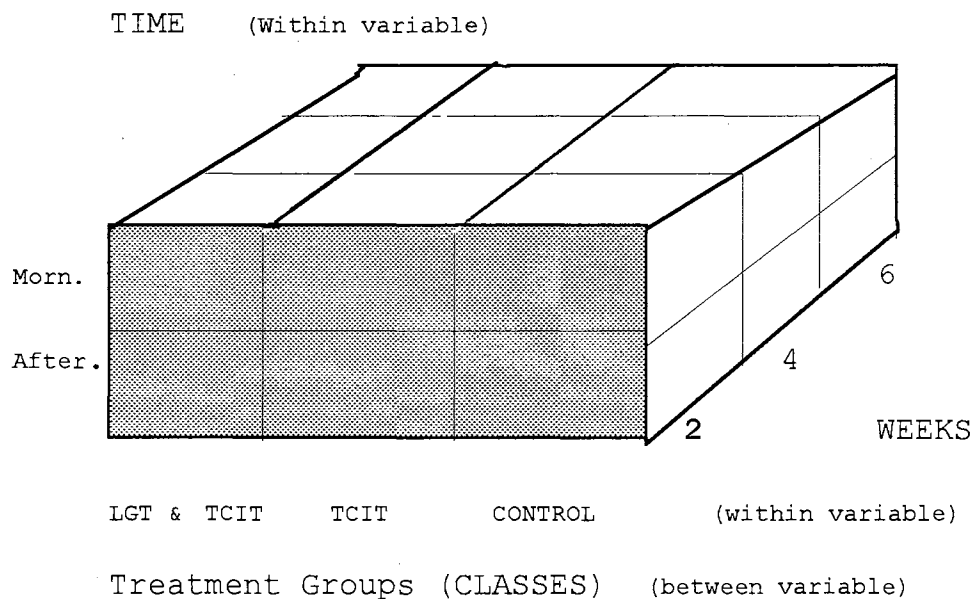
Figure 4 Schematic Diagram

Absence of a teacher during the course of the study was one area deemed crucial to the validity of the research. Therefore, individual substitute teachers were trained for each specific treatment group in the study. This training involved bringing the substitute teacher in to observe the class. Further, the researcher met with the substitute before that substitute entered the classroom. Three substitute teachers were trained and each substitute teacher was used once, each in a different treatment group (class).

The three independent variables in this study thus consisted of two within variables, week (two, four and six week periods) and time (morning and afternoon) for each of three treatment groups. The dependent variable in this study was the number of time-out incidents recorded by teachers on the time-out record forms (See Appendix D).

The three independent variables in this study thus consisted of two within variables, week (two, four and six week periods) and time (morning and afternoon) for each of three treatment groups. The dependent variable in this study was the number of time-out incidents recorded by teachers on the time-out record forms (See Appendix D).

CHAPTER IV

RESULTS

STATISTICAL ANALYSIS

The results of the statistical analyses for the hypotheses are presented in this chapter. A summary of results is provided at the conclusion of the chapter.

Number of Students per Group

The subjects in this study were students in three regular treatment groups (classes). Twenty-three students were in the TCIT and cueing group and the control group. The group using only the TCIT had twenty-four students. The teachers were regular education teachers instructing the third-grade students. The classroom using the Teacher Child Interaction Training (TCIT) coupled with cueing, the stoplight system, was called the TCIT and cueing group. The class using only the TCIT was the TCIT group and the third class was called the control group. The control group did not receive the TCIT training nor the cueing to stimulate the procedures that were used.

Descriptive Data for Students

Classroom characteristics are provided in Table 1. The number and percent of students falling into different categories and groups (classes) allows for direct comparison.

Table 1

Descriptive Statistics for the Three Third Grade Classrooms

Groups	n	NPR	L D	F L	G/T	TA	Males
TCIT & Cue	23	56	2(.08%)	6(26%)	6(26%)	10	16
TCIT	24	62	2(.08%)	7(29%)	6(25%)	12	16
Control	23	51	1(.02%)	6(26%)	7(30%)	12	14

n = number of students in each classroom
NPR = ITBS - National Percentile
L D = Learning Disabled (number of students & percent)
F L = Free Lunch (number of students & percent)
G/T = Gifted and Talented (number of students & percent)
T A = Total absences for each classroom for 6 weeks

Treatment group (classroom) descriptive statistics include 1994 Iowa Test of Basic Skills Achievement Test scores (ITBS). The ITBS National Percentile Total Composite score for each third-grade treatment group is reported. Students qualifying for free-lunch in each treatment group, and numbers of students categorized as gifted and talented for each treatment group are also presented. The total

number of absences for each treatment group over the duration of the study are also shown. In addition, the number of males in each treatment group is presented in the table. There were no categorized Seriously Emotionally Disturbed students in any of the three treatment groups involved in this research. The characteristics shown in the table are important for the generalization of the results presented in this research.

Distribution of Time-outs for Each Treatment Group

Theoretically, it is important to consider how the number of time-outs in the three treatment groups differed. Theory would indicate that as the disruptive behaviors would differ so would the number of time-outs differ. For example, when the number of disruptive behaviors decreased, in the TCIT and cueing group the number of time-outs decreased; therefore, showing fewer time-outs. Table 2 shows the total time-outs by each group, and then further separates those time-outs into morning and afternoon sessions. These time-outs reflect individual student records for the six week duration of the study.

Table 2

Total-Morning-Afternoon Time-outs By Groups

Groups	TCIT & Cueing	TCIT	Control
Total Time-outs	3	33	136
Morning Time-outs	3	20	63
Afternoon Time-outs	0	13	73

The data in Table 2 indicates that most of the time-outs occurred in the control group, the classroom without the conditions, TCIT and cueing. Second, the TCIT group having only the TCIT condition exhibited the second largest number of time-outs. Apparently as each condition (cueing or TCIT), was removed, the number of time-outs increased. Further, there were some differences between the number of time-outs which occurred in the morning and the afternoon, particularly for the TCIT group.

Assumptions

Due to the importance of the assumptions of the mixed ANOVA (independence, normality, and homogeneity of variance and covariance) these assumptions were evaluated in the current study. It is assumed that the independent variables

are fixed variables, and allow for replication of the study
(Pedhazur, 1982; p. 33). Therefore, the levels selected for
each variable in this study were not randomly sampled from a
population of levels. In other words, further research
could be conducted using the exact levels presented here.
The assumptions of independence and normality were assumed
to be met by the use of over twelve subjects per cell
(Keppel, 1991). The design allowed for the students to be
tested individually, without exposure to other conditions.

The homogeneity assumptions were addressed next. The
homogeneity of variance assumption was assessed first, with
a F-max test. The results of the analysis (F-max (2,20) =
1.59; NS) indicated the assumption of equal variances could
not be rejected for these data. The homogeneity of
covariance assumption was then evaluated. This assumption
was of concern for the repeated measure Weeks. A Mauchly
test of equal covariance upheld the assumption (W = .92291;
p = .071). Although singularity was uncovered during this
analysis, the problem existed in only two cells of the
design. Keppel (1991; p = 352) has indicated that limited
singularity does not greatly affect evaluation of the F-
tests unless variances are heterogeneous, which was not the
case in the current analysis. Therefore, the analysis
proceeded without correction.

Means and Standard Deviations

In Table 3, as the conditions in the classrooms were withheld the mean time-outs for the classrooms increased. For example, the control group exhibited a higher mean time-out than the TCIT group which had only one condition (TCIT). Also, the TCIT group exhibited a higher mean time-out than the TCIT and cueing group.

Table 3

Total – Morning – Afternoon Time-out Means and Standard Deviations for Three Treatment Groups

	Mean	(SD)	Mean	(SD)	Mean	(SD)
Groups	Total		Morning		Afternoon	
TCIT & Cue (a)	.1304 (0.458)		.1304 (0.458)		.0000 (0.000)	
TCIT Only (b)	1.3750 (2.667)		.8333 (1.834)		.5417 (0.932)	
Control (c)	.9130 (1.245)		2.7393 (3.063)		3.1739 (3.200)	

(a)   Group using the TCIT and Cueing
(b)   Group using the TCIT only
(c)   Control group
(SD) Standard Deviation

These means suggests that as fewer conditions were exposed to students in the groups the number of time-outs increased in the groups. In addition, the standard deviations increased as the conditions in the treatment

groups were withheld, indicating more variability in the number of time-outs for the groups with fever conditions.

To determine the relative effects of the conditions on each of the three treatment groups for the morning and afternoon, across three two-week intervals, a 3 x 3 x 2 mixed analysis of variance (ANOVA) was performed. The number of time-outs for each treatment group served as the dependent variable.

Mixed ANOVA Results

The Main Hypothesis: No significant differences will exist between the student time-outs in three treatment groups measured morning and afternoon across three time periods. The overall results of the 3 x 3 x 2 mixed ANOVA yielded a significant three-way interaction effect between group, week, and time $[F(4,134) = 6.76; p = .000]$. The results of the analysis are reported in Table 4. The significant three-way interaction indicates the effect of group on time-outs differed at each time, a pattern which changed across the weeks.

The crucial test of the hypothesis that no significant differences in time-outs between treatment groups in the morning and afternoon across two, four, and six weeks was rejected. This indicated the need to complete further analyses.

Table 4

Analysis of Variance for Time-outs of the Three Treatment

Groups: Test of Between & Within Subjects Effects

Source	SS	DF	MS	F	Exact P
Between					
Group	71.22	2	35.61	*15.04	.000
S/Group	158.68	67	2.37		
Within					
Time	1.58	1	1.58	3.66	.060
Week	3.46	2	1.73	*4.92	.009
Group x Time	.48	2	.24	.56	.575
Group x Week	2.07	4	.52	1.47	.215
Time x Week	3.73	2	1.87	*8.74	.000
Gr x Wk x T	5.77	4	1.44	*6.76	.000
TxWx S/Group	28.60	134	.21		

A graph for the significant three-way interaction (Week x Time at Group) was constructed, and the patterns were examined (See Figure 5). Visual inspection of the plot revealed that the patterns of the time by week interaction changed across the different groups, with the control group showing the highest mean number of time-outs and the TCIT and cueing group showing the lowest mean number of time-outs.

The graph shown in the figure consists of six lines with three means per line (Week x Group for both morning and afternoon). As noted in the graph, the pattern of lines appears fairly consistent for the TCIT and cueing group (lines 1) and the control group (lines 3), but not for the TCIT group (lines 2). Therefore, the significant three-way interaction was followed-up with Simple Main Effect post-hoc analyses. In these analyses, each line was analyzed separately, and the six analyses were compared for a pattern of significant and non-significant results. These analyses are summarized in Table 5

The data in the table reveals no real Week x Group pattern differences across morning and afternoon for the control group (both significant) or for The TCIT and cueing group (both non-significant). Statistically significant pattern differences were detected for the TCIT group,

therefore, further post-hoc analyses were conducted to

uncover the exact source of these differences.
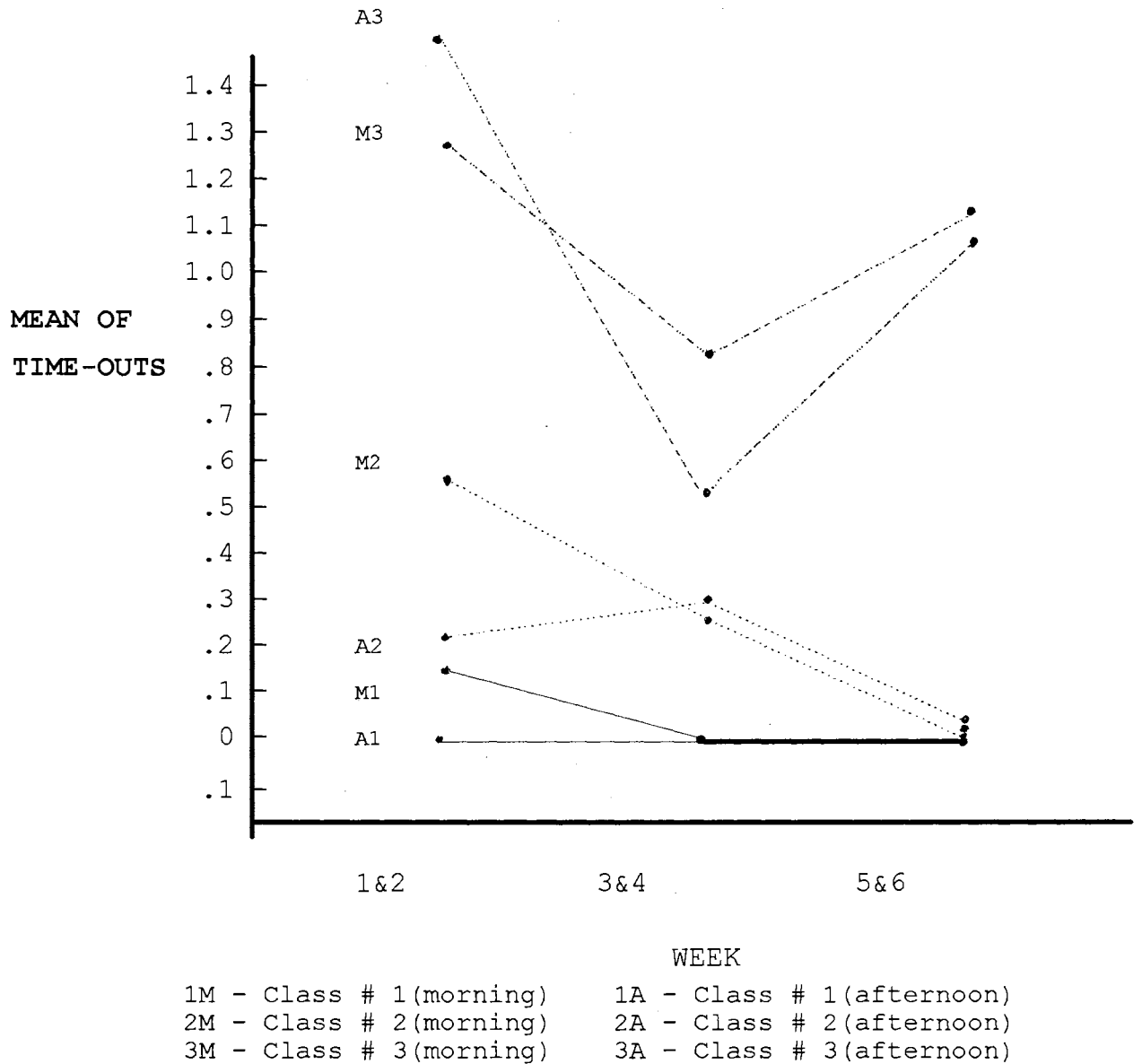
Figure 5. Average time-outs for each of the three groups by

morning and afternoon for three two week periods.

Table 5

Simple Main Effects

Controlling for Treatment Group Differences Between the Mean

Time-outs by Week and Time.

Line of Graph	Group	Comparisons	df	MS	F	Exact P
M1	1	week @ morn.	2	.130	.617	.546
A1		week @ after.	2	.000	.000	.999
M2	2	week @ morn.	2	1.514	*7.210	.001
A2		week @ after.	2	.388	1.850	.159
M3	3	week @ morn.	2	4.825	*22.976	.000
A3		week @ after.	2	1.103	*5.250	.006

after. = afternoon
morn. = morning

Tukey-HSD Post Hocs

The Tukey test was chosen as a post-hoc to the Simple

Main Effects analysis (See Table 6). These results are

discussed separated by morning and afternoon in the

following paragraphs.

Morning: These tests revealed a significant difference between Week 1 & 2 mean time-out (.542) and Week 5 & 6 mean time-out (.042) for the TCIT group (p<.01). In the control group there was a significant difference between mean time-outs in each two week interval. The difference between both Week 1 & 2 mean time-out (1.391) and Week 3 & 4 mean time-out (.478), and between Week 1 & 2 mean time-out (1.391) and Week 5 & 6 mean time-out (.870) were also significant at (p<.01) alpha level. The difference between Week 3 & 4 mean time-out (.478) and Week 5 & 6 mean time-out (.870) was significant at the .05 alpha level

Afternoon: The control group showed a significant difference only between Week 1 & 2 mean time-out (1.261) and Week 3 & 4 mean time-out (.826)in the afternoon (p<.05).

The focus of this study was to examine the differences between groups, therefore, it was necessary to collapse the variable time. The following Tukey mean comparison test results are reported with the variable time (morning & afternoon) collapsed (See Table 7).

Table 6

Tukey-HSD Means used in the Pairwise Comparisons for Groups
and Week by Morning and Afternoon

Week 1 & 2		Week 3 & 4		Week 5 & 6	
Morning		**Morning**		**Morning**	
Group	Mean	Group	Mean	Group	Mean
1-TCIT & Cue	.130	1-TCIT & Cue	.000	1-TCIT & Cue	.000
2-TCIT	.542	2-TCIT	.250	2-TCIT	.042
3-Control	1.391	3-Control	.478	3-Control	.870
Afternoon		**Afternoon**		**Afternoon**	
Group	Mean	Group	Mean	Group	Mean
1-TCIT & Cue	.000	1-TCIT & Cue	.000	1-TCIT & Cue	.000
2-TCIT	.208	2-TCIT	.292	2-TCIT	.042
3-Control	1.261	3-Control	.826	3-Control	1.087

Week 1 & 2: The TCIT and cueing group mean time-out (.1304) for Week 1 & 2 was significantly different (p < .050) than the mean time-out from the control group, (2.6522). Also, the TCIT group mean time-out (.7500) for Week 1 & 2 was significantly different (p <.050) than the mean time-out from the control group (2.6522).

Table 7

Tukey - HSD Group Means Collapsed Across Time Only: Used in Pairwise Comparisons

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Week 1 & 2		Week 3 & 4		Week 5 & 6	
Group	Mean	Group	Mean	Group	Mean
TCIT & Cue	.1304	TCIT & Cue	.0000	TCIT & Cue	.0000
TCIT	.7500	TCIT	.5417	TCIT	.0833
Control	2.6522	Control	1.3043	Control	1.9565

Week 3 & 4:   The TCIT and cueing group mean time-out (.0000) for Week 3 & 4 was significantly different (p <.050) than the mean time-out from the control group, (1.3043). The TCIT group mean time-out (.5417) was found to be non-significant at Week 3 & 4 with the control group mean time-out (1.3043).

Week 5 & 6:   The TCIT and cueing group mean time-out (.0000) at the third two week interval was significantly different (p < .050) than the mean time-out for the control group, (1.9565).   The TCIT group mean time-out (.833) was significantly different (p < .050) than the mean time-out for the control group (1.9565) for Week 5 & 6.   This is

consistent with the statistically significant difference at the first two week interval.

Tukey for Group Differences: To examine the differences between groups (classes), Tukey post-hoc analyses were conducted. The Tukey tests provided all pair-wise comparisons between group means, collapsed across Time (morning & afternoon) and Week (Week 1 & 2, Week 3 &4, & Week 5 &6). Table 8 provides the means used in these analyses. The two research questions were answered.

1. The group using Teacher Child Interaction Training and the stoplight system utilized significantly less time-outs than the group that did not use either of these conditions (TCIT & cueing vs. control).

2. The group using the TCIT, but not the stoplight system utilized significantly less time-outs than the group that did not use either of these conditions (TCIT vs. control).

3. No significant differences occurred between the TCIT and cueing group and the TCIT group.

The TCIT and cueing group mean time-out (.1304) was significantly different ($p<.05$) than the control group mean time-out (5.9130) collapsed across Time and Week.

Table 8

Tukey-HSD Means Collapsed Across Time (Morning & Afternoon)
and Weeks (Week 1 & 2, Week 3 &4, & Week 5 &6)

Groups	Total Time-out Mean
TCIT & Cueing Group	.1304
TCIT Group	1.3750
Control Group	5.9130

Also, the group using only the TCIT, mean time-out (1.3750)
was significantly different (<.05) than the control group
mean time-out (5.9130) collapsed across Time and Week.

Summary

The results of the statistical analyses completed to
test the hypotheses formulated in this study were presented
in this chapter. Descriptive statistics were provided for
students and treatment groups (classes), as were frequencies
of time-outs for each classroom.

The frequency statistics provided information that
showed a majority of the time-outs resulted from behavior of
students within the control group. In addition, and equally
as important, the frequencies suggest that as implemented

conditions are removed from the treatment groups the number of time-outs increased.

The 3 x 3 x 2 mixed ANOVA yielded a significant three-way interaction effect between groups (classes). The number of time-outs for each group differed between morning and afternoon, a pattern that was not consistent across the three two-week intervals. After plotting the means as lines on the interaction graph, a simple main effects approach was utilized to uncover the source of the significant three-way effect.

The simple main effect technique was used to locate the source of the three-way interaction. The simple main effect showed similar patterns for the TCIT and cueing group and the control group. The TCIT group, however, showed a different pattern. (See Table 5).

A Tukey-HSD post hoc analyses was used to analyze all pairwise mean comparisons for the results of the simple main effects. The first Tukey tests used revealed that there was a significant difference between Week 1 & 2 and Week 5 & 6 in the morning for the TCIT group. In the control group there was a significant difference between each two-week interval in the mornings. Also, there was a significant difference between the first two-week interval and the third two-week interval. Future, there was a significant

difference only between the Week 1 & 2 and Week 3 & 4 in the afternoons for the control group (See Table 6).

Executing the Tukey test collapsed across time allowed to check group differences within Weeks. Table 7 presented the mean time-out for each group collapsed across time (morning & afternoon).

The results indicated that the TCIT and cueing group, was found to be significantly different than the control group during Week 1 & 2. This suggests that students in the group using the TCIT and cueing displayed significantly less disruptive behavior that resulted in time-out than students in the control group. In addition, students in the TCIT group, using only the TCIT, also exhibited significantly less behavior resulting in time-out than the control group.

During Week 3 & 4, only the TCIT and cueing group significantly differed in time-outs from the control group. The TCIT group did not show a significant difference from the control group. The lack of a significant difference between the TCIT group and control group at the second two-week interval seemed to be reflective of a decrease in the number of time-outs by the control group. The TCIT group continued to decrease in the number of time-outs.

At Week 5 & 6 both the TCIT and cueing group and the TCIT group showed a significant difference from the control group in behaviors resulting in time-out. This may indicate

that the TCIT and cueing group and the TCIT group was taught problem solving skills that enabled them to exhibit appropriate behaviors, therefore, reducing the number of time-outs in the classroom

Another Tukey test executed for Groups only, collapsing week and time, allowed for the two research questions to be answered. Both the TCIT and cueing group and the TCIT group showed significant differences in the number of time-outs exhibited by the students from the control group for the six week period used in this research. These results indicated that cueing coupled with problem solving and problem solving used alone helped students to manage their behaviors in the classroom. As a result, the number of disruptive behaviors resulting in time-out decreased in the classroom.

CHAPTER V

SUMMARY AND CONCLUSIONS

The purpose of this research was to investigate the
effects of a specialized, cognitive-behavioral intervention
system on defiant and disruptive behaviors in the classroom.
Two treatment groups and one control group were utilized to
determine if the number of time-outs differed significantly
among students who received the TCIT and cueing system
(N=23), students who received only the TCIT system (N=24),
and students in the control group (N=23), which did not
receive the TCIT or cueing system. The subjects in this
research were students enrolled in the third-grade at a
public school district in central Oklahoma. Students with
learning disabilities or giftedness and those who
participate in the free-lunch program were all included in
this research. The average National Percentile Score was
computed for each of the three classes. These National
Percentile Total Composite Scores from the 1994 Iowa Test of
Basic Skills were similar for each of the three classes
reflecting the similarity in the distribution. There were
no students who were placed in programs for the Seriously

Emotionally Disturbed participating in the research, nor
were there any students referred for such testing.

The main hypothesis is that no significant differences
exist with the impact of groups on time-out differences for
morning and afternoon across two, four and six weeks. A 3 x
3 x 2 mixed ANOVA design with an exact alpha level of .000
was utilized for analysis of the data collected to test the
main hypothesis. Statistically significant differences were
found in a three-way interaction between treatment groups
(classes), week and time for each of the three two-week time
intervals. Therefore, the main hypothesis, that no
significant differences would exist between the three groups
in the morning and afternoon for three two-week intervals
was rejected. Various statistical methods were used to
examine morning and afternoon differences and the
differences that existed between the three two-week
intervals. However, the focus of this research, group main
effects, examined the differences between the TCIT and
cueing group and TCIT group from the control group over a
six week period.

A Tukey test was executed to examine Group (class)
differences. Collapsing the levels of Week and Time,
allowed for the two research questions to be answered. Both
the TCIT and cueing group and the TCIT group showed
significant differences in the number of time-outs exhibited

by the students from the control group for the six week
period used in this research.

Conclusions

Based on the findings of this research conclusions were
drawn and reported. First the implications on theory are
reported separated by cognitive-behavioral and behavioral
approaches. Next, implications on teacher acceptance and
training are reported, followed by implications of students'
acceptance. Concluding this chapter, implications for
future research are described along with limitations of the
research.

Implications on Theory

Cognitive-Behavioral Training

Cognitive-Behavioral Training (CBT) theory expands the
use of cognitive skills and indicates that students can use
problem solving techniques and as a result, self-direct
their own behaviors. Meichenbaum (1993) defined Cognitive-
Behavioral Management with the use of three metaphors. As a
result of CBT, Meichenbaum expected the role of cognition to
help change aggressive motivations and reduce disruptive
behaviors. These metaphors include cognition as a form of
conditioning, information processing, and narrative
construction. The first metaphor, conditioning, enabled the
student to act and not to react. The second metaphor,

information processing, indicated that the student needed to learn coping skills. During this process the interventionist helps students to become aware of high-risk situations and prepare for the encounters. The third metaphor, narrative construction, helps the students to mold stressful events into more manageable events.

Also, research supports that the student must establish a connection between internal cognitive events and overt behaviors. As a result, the student learns to manage her/his social-emotional behavior and reduces inappropriate behavior (Smith, Siegel, O'Connor, & Thomas, 1994).

This research supports and expands the Cognitive-Behavioral Theory. Students were directed by teachers to use cognition in problem solving. When given an opportunity to act upon the decisions the students were usually successful in correcting their own behavior. The TCIT without cueing was found to be significantly different than the control group indicating support for Cognitive-Behavioral Training. The students self-directed their own behavior without the use of cueing. However, the teacher did initiate the Cognitive-Behavioral process.

In another study cueing helped students to follow routines and help manage disruptive behaviors. Mise and Ladd (1990) conducted studies on low-socioeconomic pre-school groups of students and found that cueing helped

manage disruptive behaviors. The results were generalized in that the technique could be used effectively with all students.

The results of this research indicated that cueing coupled with TCIT can be used effectively in managing disruptive and defiant behaviors of third-grade students. Furthermore, if the behaviors can be managed at two, four and six weeks, it is assumed that cueing coupled with TCIT can be effective in managing third-grade students' disruptive behaviors through-out their school year.

Few studies were found that focused on distinct cognitive and behavioral techniques such as Teacher Child Interaction Training to modify disruptive behaviors. In addition, no study was found using a stoplight system in combination with TCIT techniques to stimulate targeted behaviors and the effects it had on managing behaviors of third-grade students. Therefore, this research indicates a critical need to address the skills taught to students to facilitate problem solving skills. In addition, it may be projected that these cognitive-behavioral techniques may be beneficial for students even after they leave the public school.

Behavioral Management Theory

Behavioral Management Theory indicates that conditioning is a vital part in managing students behavior

in the classroom (Paul & Euchin, 1982). Behavior Management regulates the amount of control given to a student (Ruhl, 1982).

The results of this research indicated that using the TCIT could be more effective at both two and six weeks over classroom techniques with only behavioral techniques. Behavior management was used only as an alternative system when third-grade students failed to correct their disruptive behaviors following utilization of cognitive training techniques in the classroom. The behavioral management portion of TCIT was consistent with other research with disordered children (Witt & Robbin, 1985). Witt and Robbin indicated that both positive rewards and negative consequences were needed to manage aggressive behavior of students. Positive reinforcement was given to students when they returned from the thinking area and acted upon the decision made in the thinking area. Negative consequences were used when students failed to make appropriate decisions after participating in the thinking area. This alternative system was necessary for only a limited number of third-grade students in the TCIT and cueing group and the TCIT group. The control group used only negative consequences when the targeted behavior was not followed by the student. As indicated by the graphed means and the number of time-out frequencies exhibited from the students in the three

classes, when conditions were utilized, the number of disruptive behaviors resulting in time-outs decreased.

This research also indicated that the number of time-outs for the TCIT group differed significantly from morning to afternoon at the first two week interval. The students exhibited more time-outs in the morning than they did in the afternoon. This may indicate that without cueing or strong behavioral management techniques students may forget to follow identified procedures until it is practiced that day for a two week period. In addition, it may indicate that no consistent pattern may exist between morning and afternoon time-outs.

The research indicated that classroom management without cognitive training may decrease behaviors in the second two week interval; however, during the third two-week interval behaviors will again increase. Within the two groups that used cognitive techniques, one in combination with cueing, the number of time-outs decreased or remained the same; therefore, indicating again that cognitive training may increase the probability that the students will retain the skills to manage their behaviors. Therefore, behavior management techniques may fail to teach students skills to problem solve. As a result, a reoccurrence of disruptive behaviors may be exhibited when only conditions and contingencies are taught.

Implications of Teacher Acceptance and Training

Teachers' acceptability toward others providing interventions in the classroom was a significant factor in previous research (Tingstrom, 1989; & Witt & Robbin, 1985). Research indicated that the more severe the behavior the more acceptable teachers are for others to implement procedures (Reimers, Wacker, & Kieppl, 1987). Currently, the behaviors exhibited in the classroom may be an indication of the acceptance received from the three third-grade teachers who were randomly assigned conditions and selected for this research. In spite of the three teachers' willingness to participate in the research, the teachers were skeptical that the TCIT program would make a difference in their students' behaviors. Following the completion of the research, the three teachers wanted to express their feelings about the program and its implications on their positive students' behaviors. These three letters can be found in the appendix E, F and G.

Furthermore, the principal seemed to like and accept the program because she received only seven discipline referrals from the three third-grade classrooms involved in the research for the six week period. The principal reported that three to four referrals were turned into the office every two weeks in the first seven months of the school year. In addition, four of the seven referrals were

from the control group during the research. The principal

thought it taught the students how to make better decisions.

Also, the TCIT program helped the teachers to be more

consistent with their students.

The results of this study support teacher training.

The teachers were taught to use discreet reprimands without

threatening tones, cue the students before the behaviors

escalated, decrease the amount of verbalization to students

and act, not react (have a plan). The results reflect

similar findings by Gresser, Matthews, Petrides, Reyes, and

Segarra (1993). The teachers were taught skills to model to

students through staff development programs. Theses skills

included using non-threatening tones before inappropriate

behaviors escalated, stepping back, making eye contact and

thinking before responding. According to teachers who were

implementing the methods, classroom behavior had improved

significantly.

The TCIT taught teachers to utilized these modeling

techniques before the implementation, and as a result,

helped improve student disruptive and defiant behaviors in

the classroom.

Implications of Student Acceptance

In addition to teacher acceptance, student acceptance

was equally important. Students seemed to like and accept

problem solving techniques and cueing in their classrooms.

A student survey was given to all the third-grade students at the end of the study and the following results were taken. In the TCIT and cueing group, 90% of the students liked the program, 6% were neutral, and 3% did not like it. In the TCIT group, 82% liked the program, 10% were neutral, and 8% did not like it. Finally, in the control group, 21% liked the program, 7% were neutral, and 72% did not like the methods. This indicated that the TCIT and cueing conditions were pleasantly accepted by students in the treatment groups. The students in the control group did not like the behavioral management techniques used to control their behaviors.

Implications For Future Research

Limitations of Research

As in all studies, this research had its limitations. The sample size was limited to students enrolled in the third-grade classes at a public school in central Oklahoma. There was a total number of six third-grade teachers at this public school from which to select comparable or similar intact groups.

Singularity existed for two matrix cells. Singularity is the inability of the computer to analyze data for the specific number of cells effected. However, since

singularity occurred for only two matrix cells, it is not a major concern but a limitation of the study.

Based on these statistical findings the following recommendations for future research are made. The previous limitations should be considered if replicating this study.

Replication of this study is advised. This would further validate the outcome as being directly attributable to the conditions assigned to each class. Singularity should be considered in this replication.

Further research could include a longitudinal study, where different individuals from the same populations are used in order to make ongoing comparisons over a period of time. The time period could be expanded over many years.

In addition, a qualitative study could look at multiple causation, and multiple solutions associated with the thinking area. A narrative analysis of problem solving could be conducted with methods used with students in the thinking area.

Other areas of possible further research could include the assessment of the different grade levels. In addition, research could be gathered from the cafeteria or on the playground. Currently, the TCIT program is being extended to the playground for those students within the school system upon which the original research was conducted.

Further research may be conducted with specific homogeneous groups such as: Attention Deficit Hyperactive Disorder (ADHD), Learning Disabled, and Seriously Emotionally Disturbed students. However, the program should be implemented for all students because the contemporary setting for teachers involves a total class environment. Research focusing only on disordered children would be a limitation to the study and would not be meaningful to a teacher in a regular classroom environment. The research could be used with students in a Seriously Emotionally Disturbed classroom.

Further research may be conducted with the TCIT and cueing group and the TCIT group using a different dependent variable, such as behavior rating scales or observations used as a pre- and post-test method.

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APPENDIXES

APPENDIX   A

PARENT CONSENT FORM

PARENTAL CONSENT FORM

COGNITIVE SOCIAL SKILL TRAINING FOR STUDENTS IN THE REGULAR

CLASSROOM REINFORCED BY TEACHERS BEHAVIOR MANAGEMENT

"I, _____, hereby
authorize or direct Randy Randleman, researcher, to perform
the following procedure or above titled research:"

I understand that:

1. The purpose of this study is to report on the effects
    of cognitive socials skills utilized through Teacher
    Child Interaction Training. Cognitive social skills
    will be taught to the students and reinforced by
    teacher behavioral techniques. A stoplight
    method of cueing, will be added to report on time-out
    behavior in third grade classrooms. Time-out and
    thinking areas will be utilized to facilitate this
    study.
2. Three classrooms will be monitored. The conditions
    will be randomly assigned to the three teachers. Class
    number one will receive in combination the TCIT
    training and the stoplight system. Class number two
    will receive only the TCIT training. Class number
    three will be the control group and will not receive
    the TCIT training or the stoplight system. Classrooms
    will be monitored for data for six weeks.
3. The methods utilized in this study are methods that are
    used in most every classroom in our educational system.
    The only discomfort the student may feel is sitting in
    time out for five minutes.
4. The confidentiality of the student will be protected by
    assigning each student a random number. Names will not
    be used but replaced with the usage of numbers. An
    individual record sheet will be given to the teacher
    and then collected on a weekly basis by the researcher.

5. The cognitive social skills taught to the students are
    problem solving skills that can benefit the student by

improving rapport with others, understanding limit setting, improving on-task time for better achievement, and learning how to creatively solve crises situations. Furthermore, the student can be expected to retain these skills in future school years, as well as, at home and in society.

6. This research is done as part of an investigation entitled "Cognitive Social Skill Training for Students in the Regular Classroom Reinforced by Teachers Behavior Management." This is a system to facilitate problem solving techniques for students in the third grade classrooms with minimal interventions from the teacher.

7. I understand that participation is voluntary, that there is no penalty for refusal to participate, and that I am free to withdraw my consent and participation in this project at any time without penalty after notifying the project director.

8. I may contact Randy Randleman at telephone number (918)492-6656 or Dr. Paul Warden at (405) 744-6036 should I wish further information about the research. I may also contact Terry Maciula, University Research Services, 001 Life Sciences East, Oklahoma State University, Stillwater, OK 74078; Telephone: (405) 744-5700.

I have read and fully understand the consent form. I sign it freely and voluntarily. A copy has been given to me.

"Date: _____ Time_____ (a.m./p.m.)

_____
(Name of Subject)

_____
(person authorized to sign for subject, parent or guardian)

Witness if required_____

"I certify that I have personally explained all elements of this form to the subject or his/her representative before requesting the subject or his/her representative to sign it."

"Signed_____
(project director or his authorized representative

RESEARCH PROJECT

The TCIT training consist of teaching students to use cognitive social skills in solving problems that they encounter in the classroom. The teachers will direct the student to the established thinking area in the classroom, where the student will learn to recognize their feelings, problem solve for alternative solutions, and return in the instructional setting to incorporate their solutions. The stoplight system will be used to cue the specific rules to be enforced at a particular time in the classroom. If the student chooses to violate the rule after the problem solving technique is used the student will then serve a five minute time-out. The students that are in the control group will serve a five minute time-out with out going to the thinking area. The number of time-outs served in each classroom will be recorded over a six week period.

The teachers will use a five minute period at the beginning of each of four subjects to give instructions for assignments and the following rules will apply: the student must stay in his/her seat; the student will refrain from talking; the student will listen to instructions. The following ten minutes will be used to work on in-class assignments and the following rules apply: the student must stay in his/her seat: the student will refrain from talking; the student may raise their hand and anticipate the teacher response; the student may leave their seat to go to their work tray. Following the combined fifteen minute period regular in-house behavior will be accepted. Students will be allowed to move freely around the room be directed by their teacher for educational purposes.

APPENDIX   B

TEACHER CONSENT FORM

TEACHER CONSENT FORM

COGNITIVE SOCIAL SKILL TRAINING IN THE REGULAR CLASSROOM

REINFORCED BY TEACHERS BEHAVIOR MANAGEMENT

"I, _____ (teacher), hereby
authorize or direct Randy Randleman, researcher, to perform
the following procedure or above titled research in the
classroom:"

I understand that:

1. The purpose of this study is to report on the effects
   of cognitive socials skills utilized through Teacher
   Child Interaction Training. Cognitive social skills
   will be taught and reinforced by teacher behavioral
   techniques. A stoplight method of cueing, will be
   added to report on time-out behavior in third grade
   classrooms. Time-out and thinking areas will be
   utilized to facilitate this study.
2. Three classrooms will be monitored. The conditions
   will be randomly assigned to the three teachers. Class
   number one will receive in combination the TCIT
   training and the stoplight system. Class number two
   will receive only the TCIT training. Class number
   three will be the control group and will not receive
   the TCIT training or the stoplight system. Classrooms
   will be monitored for data for six weeks.
3. The methods utilized in this study are methods that are
   used in most every classroom in our educational system.
   The only discomfort is the interruption of the
   classroom schedule for implementation of the procedure.
4. Confidentiality will be protected by assigning each
   teacher a random number. Names will not be used but
   replaced with the usage of numbers. An individual
   record sheet will be given to the teacher and then
   collected on a weekly basis by the researcher. The
   teacher will report on the number of time-out
   incidents in the classroom. The record sheet will
   contain classroom based data.

5. The cognitive social skills taught and reinforced by
   the teachers are problem solving skills that can

benefit the student by improving rapport with others, understanding limit setting, improving on-task time for better achievement, and learning how to creatively solve crises situations. Furthermore, the teacher can be expected to retain these behavioral skills in future school years.

6. This research is done as part of an investigation entitled "Cognitive Social Skill Training in the Regular Classroom Reinforced by Teachers Behavior Management." This is a system to facilitate problem solving techniques in the third grade classrooms with reinforcement interventions from the teacher.

7. I understand that participation is voluntary, that there is no penalty for refusal to participate, and that I am free to withdraw my consent and participation in this project at any time without penalty after notifying the project director.

8. I may contact Randy Randleman at telephone number (918)492-6656 or Dr. Paul Warden at (405) 744-6036 should I wish further information about the research. I may also contact Terry Maciula, University Research Services, 001 Life Sciences East, Oklahoma State University, Stillwater, OK 74078; Telephone: (405) 744-5700.

I have read and fully understand the consent form. I sign it freely and voluntarily. A copy has been given to me.

"Date: _____ Time_____ (a.m./p.m.)

_____
(Name of Teacher)

APPENDIX C

PROBLEM SOLVING SHEET
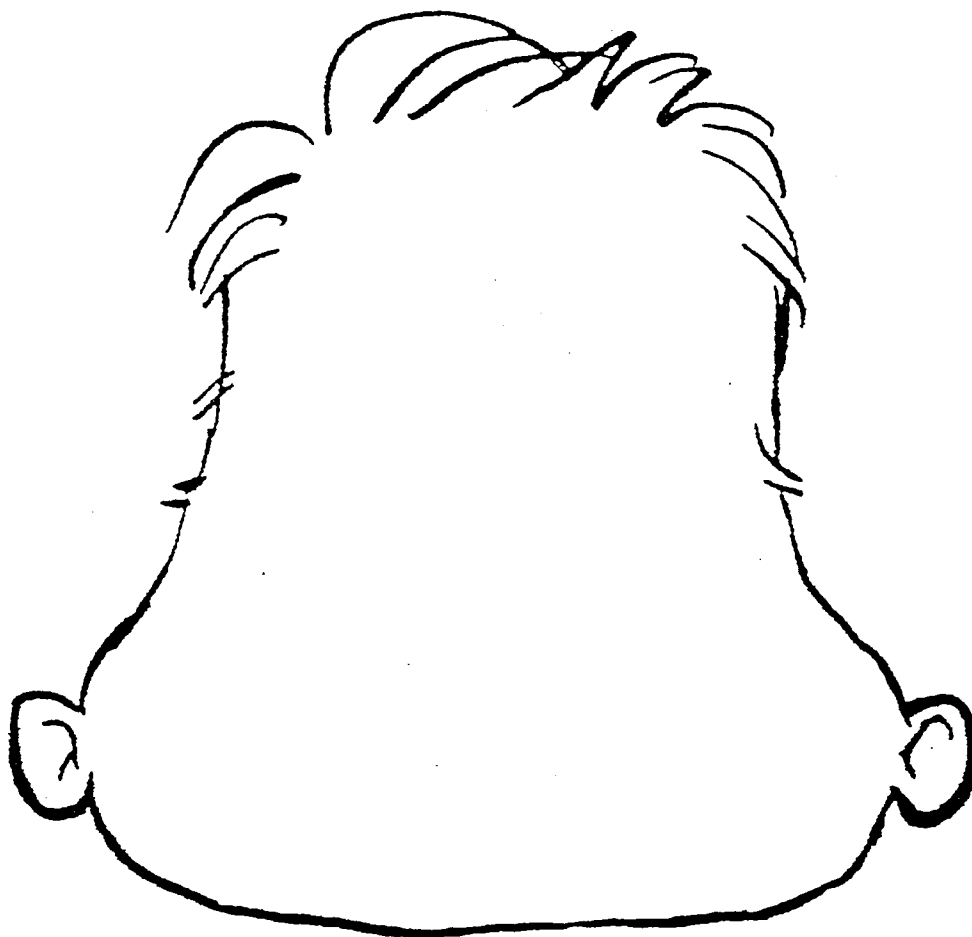
1. On the face above, draw how you feel. (Look at the pink sheet if you need help). The pink sheet has examples of feeling faces.

2. Next write what you think the problem is.

_____

_____

_____

3. Finally, think of a way to solve this problem and write it below.

_____

_____

_____

How Are You Feeling ?

EXHAUSTED	CONFUSED	ECSTATIC	GUILTY	SUSPICIOUS
ANGRY	HYSTERICAL	FRUSTRATED	HURT	CONFIDENT
EMBARRASSED	HAPPY	MISCHIEVOUS	DISGUSTED	FRIGHTENED
ENRAGED	ASHAMED	CAUTIOUS	SMUG	DEPRESSED
OVERWHELMED	HOPEFUL	LONELY	LOVESTRUCK	JEALOUS
BORED	SURPRISED	ANXIOUS	SHOCKED	SHY
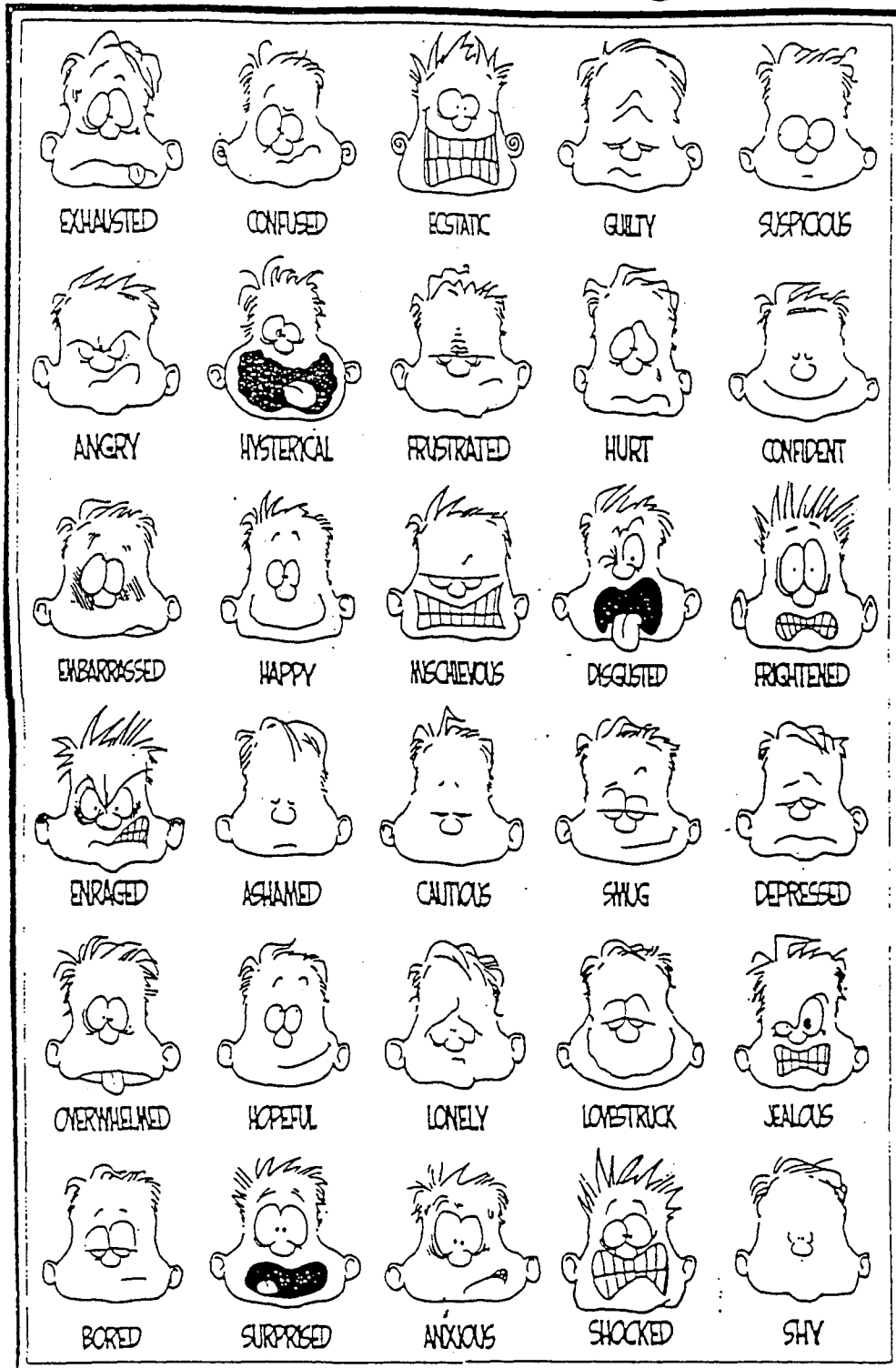
APPENDIX   D

RECORD FORM

ASSIGNED #	WED		THUR		FRI		MON		TUES	
	m	a	m	a	m	a	m	a	m	a
1										
2										
3										
4										
5										
6										
7										
8										
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21										
22										
23										
24										

TEACHER # _____   WEEK _____   DATE _____

Notes

TIMEOUT CHAIR=T DISCIPLINE CHAIR= D PRINCIPAL= P ABSENT= A

RECORD SHEETS FOR TIME-OUT

APPENDIX   E

TEACHER LETTER   (TCIT & CUEING)

May 20, 1995

Letter Written by:

Teacher of Classroom #1 (TCIT & Cueing)

I have thoroughly enjoyed the TCIT and Stop Light Program that Mr. Randleman implemented in the third grade this year. It definitely made the children more aware of discipline in the classroom. They knew they had consequences to deal with if they could not make appropriate decisions and had to use one of the discipline chairs.

The program was very successful in my classroom. We used the whole program which included the lights, the procedures, and the two chairs. The discipline chair was never used. The time-out chair was used once. The thinking area was used fairly often but not in excess.

Children like discipline. They like quiet classrooms where they can think clearly and study harder. This program will work!

Third Grade Teacher

Classroom #1

Central Oklahoma

APPENDIX F

TEACHER LETTER (TCIT CLASS)

May 20, 1995

Letter Written by:

Teacher of Classroom #2 (TCIT)

Having dealt with the worst class (behavior wise) of my 26 year teaching career, I felt the TCIT program would be as inadequate as my teaching experience in gaining a manageable control of the children in my classroom.

However, desperation and a willingness to "try anything" caused me to implement the program with some reservations.

I can honestly say that the program works and helped me maintain my sanity. The practiced procedures of the program bring organization out in the classroom.

The students responded well to the program since it was a fair plan for everyone. They knew exactly what to expect, how they could make better decisions and the consequences that would follow if procedures were not followed.

I recommend the program and I plan to use it in the years to come.

Third Grade Teacher

Classroom #2

Central Oklahoma

APPENDIX   G

TEACHER LETTER   (CONTROL CLASS)

May 20, 1995

Letter Written by:

Teacher of Classroom #3 (Control Group)

My students never asked why we didn't have a stoplight, nor did they ask why didn't we have a thinking area. They were focused on themselves.

During the fifth and sixth weeks my students were the only ones sitting out at recess. They never figured out why (that the other groups had a "thinking area" and we didn't).

The TCIT and the TCIT coupled with Cueing worked better than I expected. The third grade class is an extremely disruptive group. Most students could control their behavior when using the TCIT system. However, in my group, the control group, the students found it difficult to control their verbal thoughts and behaviors. Therefore, they were placed in time-out on many occasions because of their lack of control.

Third Grade Teacher

Classroom #3

Central Oklahoma

2

VITA

Randy Duane Randleman

Candidate for the Degree of

Doctor of Philosophy

Thesis: COGNITIVE AND BEHAVIORAL TRAINING IN THE
             REGULAR CLASSROOM REINFORCED BY
             TEACHER MANAGEMENT

Major Field: Applied Behavioral Studies

Biographical:
    Personal Data: Born in Henryetta, Oklahoma, on January
        25, 1954, the son of Harold and Opal Randleman.

    Education: Graduated from Wilson High School,
        Henryetta, Oklahoma in May 1972; received
        Associates of Art at Northeastern A&M in May of
        1974; Bachelor of Science degree in Education from
        the University of Tulsa in May 1976; and, a
        Masters of Science in Educational Counseling from
        Northeastern State University in May, 1984.
        Completed the requirements for the Doctor of
        Philosophy degree at Oklahoma State University in
        May, 1996.

    Experience: Taught at the elementary and secondary
        level in the public school system; served as a
        counselor and principal; worked as a psychometrist
        and school psychologist; and, clinical experience.

    Professional Membership: Oklahoma School Psychological
        Association; National Association of School
        Psychologist; and, American Psychological
        Association and, Council for Exceptional Children

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD
HUMAN SUBJECTS REVIEW

Date: 04-04-95

IRB#: ED-95-069

Proposal Title: COGNITIVE SOCIAL SKILL TRAINING IN THE REGULAR CLASSROOM REINFORCED BY TEACHER BEHAVIOR MANAGEMENT

Principal Investigator(s): Paul Warden, Randy Randleman

Reviewed and Processed as: Exempt

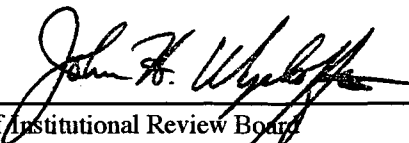**Approval Status Recommended by Reviewer(s):** Approved

ALL APPROVALS MAY BE SUBJECT TO REVIEW BY FULL INSTITUTIONAL REVIEW BOARD AT NEXT MEETING.
APPROVAL STATUS PERIOD VALID FOR ONE CALENDAR YEAR AFTER WHICH A CONTINUATION OR RENEWAL REQUEST IS REQUIRED TO BE SUBMITTED FOR BOARD APPROVAL.
ANY MODIFICATIONS TO APPROVED PROJECT MUST ALSO BE SUBMITTED FOR APPROVAL.

Comments, Modifications/Conditions for Approval or Reasons for Deferral or Disapproval are as follows:

Signature:

Chair of Institutional Review Board

Date: April 12, 1995