THE EFFECTS OF THE USE OF PEGS! ON TEACHER CLASSROOM BEHAVIOR MANAGEMENT

by

KATHY D. R. KELLEY

(Under the direction of Dr. William Swan)

ABSTRACT

This study explored the impact of the Practice in Effective Guidance Strategies! (PEGS!) CD-ROM on behavior management with 6 kindergarten teachers who volunteered to participate in the training. Descriptive and inferential statistics were utilized to assess the role of PEGS! relative to teacher behaviors and classroom behavior management interventions, student and teacher attendance, student office referrals, and student achievement. A post hoc study was conducted with 2 beginning teachers on the above variables with the exception of student achievement.

Results indicated that with experienced kindergarten teachers, PEGS! had little effect at the .0l level. However, significance was found for PEGS! participants' self-perception of use of the reprimand strategy (significant at the .05 level) and for the mean number students participating in acceptable ways (at the .01 level). Post hoc findings indicated that the PEGS! participant improved appropriate class participation while the nonparticipant did not. Several recommendations were provided to more effectively implement the PEGS! program.

INDEX WORDS: Classroom Behavior Management, School Violence, Academic Achievement, Accountability, Early Intervention, Staff Development, Behavior Management Programs

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TABLE OF CONTENTS

LIST OF TABLES

Page

TABLE

CHAPTER 1

INTRODUCTION

Hoagwood (2001) said, "Balancing the needs of students [with difficult to manage classroom behavior] against the mandate to educate and meet academic standards set by state agencies is a formidable task" (p. 1). Managing students with difficult, even dangerous, behaviors and accountability have been issues that have received much public attention in recent years. President Bush signed into law the *No Child Left Behind (NCLB) Act* on January 8, 2002, which reformed the Elementary and Secondary Education Act (ESEA) of 1965. Among other foci, the NCLB Act posits stronger accountability for results than ESEA of 1965. In Georgia, the *A+ Educational Reform Act* (2000) was passed to increase student academic performance and to hold local schools accountable for student progress. This followed the implementation of the *Improved Student Learning Environment and Discipline Act* (1999). Classroom behavior management was ranked as the number one factor for increased student achievement (Wang, Haertel, & Walber, 1993). The distractions caused by the inappropriate behavior of one student affect academic performance of others because classrooms are public arenas (McEvoy & Welker, 2001).

Statement of the Problem

The problem for this study was to examine the relationships among effective strategies to increase teacher knowledge and skills in behavior management and student performance (both behavioral and academic) in the classroom**.** Educating teachers in

effective use of positive behavioral intervention strategies to anticipate and avoid problem behaviors and increase the participation of both individual students and groups can prevent the escalation of discipline problems and increase students' time on academic tasks. A most essential teacher responsibility is managing classroom behavior in a positive and well-thought-out manner, because without effective classroom behavior management there is no effective teaching (Hastings & Schwieso, 1995). "The teacher who cannot maintain behavior within reasonable limits, through positive management procedures, will face constant frustration and personal dissatisfaction, and is likely to find those same feelings expressed by students and their parents" (Kerr & Nelson, 1983, p. 80). Darling-Hammond and Sclan (1996) proposed that a more complex, knowledge-based, multicultural, and potentially violent society has created new expectations for teachers as classroom managers.

Two behavior management approaches researched in this study were behavioral management and Developmental Therapy. Behavior management therapy is based on changing observable, targeted behavior by using specific objectives (Cullinan, Epstien, & Kauffman, 1982; Polsgrove & Nelson, 1982). Developmental Therapy is based on understanding the social and emotional level of students in order to modify educational experiences based on the developmental needs of the student (Wood, Combs, Gunn, & Weller, 1986). Both emphasize a positive approach to classroom behavior management.

American schools have become more multicultural, yet the teachers are primarily middle-class Caucasians (McIntyre, 1992a; Payne, 1998). Multicultural and diverse student behaviors are frequently misinterpreted by teachers (Foster, 1986; Grossman, 1990; Hanna, 1988). Payne (1998) found many discipline issues were related to poverty.

Children who live in poverty are at greater risk of being exposed to a combination of socialization factors shown to be associated with discipline problems (Conger et al., 1992). The presence of these factors can help explain the greater incidence of discipline problems among African American and Hispanic American children who are twice as likely as white children to live in poverty (U.S. Department of Education, 1996). Understanding the distinctions of poverty is important for teachers who serve this population because educators in low-income and/or low-white-percentage schools have been found to endorse the use of punishment and the removal of students (Moore & Cooper, 1984).

Statement of Purpose

The purpose of this study was to determine the impact of an interactive CD-ROM program, Project PEGS!, on behavior management for elementary teachers (experienced and new) on student performance (both behavior and academic) in Title I schools in a moderate-sized school system. Practice in Effective Guidance Strategies (PEGS!) is an animated, interactive CD-ROM that provides adults instruction in effective behavior management practices with children of elementary school age. Adults using the program can choose among four educational activities (physical activity, group discussion, group project, and individual work) and three difficulty levels. Simulations of problem behaviors are viewed, and the teacher practices positive management strategies, matching effective interventions to the needs of individual children to keep children actively involved in instruction. Feedback about the selected interventions is provided immediately, and a summary of management styles is provided. If the conditions under which the PEGS! program are found to be effective can be identified, it could prove to be

a relatively inexpensive means for providing realistic professional development for adults who teach elementary-aged children and provide the opportunity to improve student achievement by increasing time on task.

Much research in the neurobiological, behavioral, and social sciences has lead to major advances in understanding the conditions that influence the lives of young children. The importance of early life experiences, essential social skills, and the vital role of early relationships have been highlighted by scientific study (Shonkoff & Phillips, 2000). Planned interventions to increase favorable developmental outcomes for children can have powerful effects. Unfortunately, most schools respond to at-risk learners reactively rather than proactively (Walker, Block-Pedego, Todis, & Severson, 1998). Data derived from this study can provide more information regarding alternative staff development options for schools to use data-driven decisions for effective behavior management and to increase student achievement.

Research Questions

Two sets of research questions focused this study. The first set focused on only those teachers who completed the PEGS! training and their students. The second set focused on comparisons between those teachers who completed PEGS! training and their students and those teachers who did not participate in the PEGS! training and their students.

Set I

The first set of questions asked whether Title I elementary teachers who completed PEGS! training (a) perceive themselves to increase the use of the 12 interventions taught in the Project PEGS!, (b) increase the number of students

participating in acceptable ways as defined by the PEGS! Observation form, and (c) increase teacher daily attendance.

Set II

The second set of questions asked whether there were differences between the Title 1 teachers who completed the PEGS! training and their students and the Title 1 teachers who did not participate in the PEGS! training and their students on the following: (a) attendance of teachers and students, (b) student inappropriate behavior that resulted in teacher office referrals, and (c) student achievement on state/local mandated tests.

Definition of Terms

This section includes definitions of the terms relevant to the study. These definitions are presented to provide a common understanding of the terms in this study.

Behavior management: "Classroom behavior management … refers to the management of pupil behavior in group settings which, in its broadest sense, is only part of classroom management" (Kerr & Nelson, 1983, p. 80). For the purpose of this study, classroom behavior management refers to the management of student behavior in group settings.

Discipline: The responsibility of enforcing simple classroom rules that facilitate learning and minimize disruptions (Jones, 1979).

Elementary schools: Kindergarten through grade 5; in this study, early grades refers to Kindergarten through first grade.

Inappropriate behavior: Behavior not correct for a given situation based on school and classroom rules.

Behavior management interventions: Strategies and techniques employed by educational personnel to change or maintain behavior.

Low socioeconomic status (SES): Students eligible for free or reduced-priced lunches (FRL).

Office referral: A teacher referral to the office for disciplinary purposes due to inappropriate behavior.

Title 1 school: In Georgia, a school that qualifies for federal and state funding as part of a compensatory education program. Eligibility is based on the number of students from families with incomes below the poverty level and student achievement measures (Odden & Picus, 1992).

Limitations

The generalizations of this study were limited to Title 1 schools of low socioeconomic status from the Southern region with significant Hispanic populations.

The sample size was small.

Justification for the Study

Effective classroom behavior management included teachers managing the behavior of both individuals and groups to create safe environments in which students can learn and staff can teach. Even though schools are safe environments (Donohue, Schiraldi, & Ziedenberg, n.d.), the youth population is committing more violent crimes at younger ages (Walsh, Goldman, & Brown, 1996). One of the strongest predictors for aggressive behavior at age 19 is aggressive behavior at age 8 (Ashcroft, 1999). Capaldi and Patterson (in press) found violent juvenile offenders commonly had their first felony arrest at age 10 or younger, usually for a serious offense, and they were likely to have

three or more arrests by early adolescence. This has significant implications for classroom behavior management. Students at risk for aggression, violence, and delinquency have been studied, and characteristics that are commonly associated with this population have been identified. Some of the characteristics include a history of early aggression, problem parental behavior, low emotional attachment to parents or caregivers, academic failure, and diminished economic opportunity. There is a need for information about the effectiveness of classroom behavior management programs (Walker & Epstein, 2001).

Preventing behavioral issues by implementing positive classroom behavior interventions is a proactive way of dealing with academic and behavioral issues. By improving classroom management and increasing individual and group participation in classroom activities, the interventions used in PEGS! provide a history of what teachers have tried prior to referral. Staff development on effective interventions for classroom behavior management empowers teachers, which is significant since teachers are a major influence in the classroom (Wong & Wong, 1998).

Evertson and Harris (1992) found that maintaining behavior conducive to academic achievement remained a challenge that every teacher faced throughout her/his teaching career. Teachers with ineffective classroom management skills are more likely to leave the profession (Lasley, 1994). Conversely, Wang et al. (1993) found teachers with effective management skills stay in the profession and positively impact student achievement. This has implications for teacher retention at a time when Georgia has implemented alternate certification plans to cope with teacher shortages.

The three participating schools in the sample have witnessed changes in their student demographics since 1994. The Hispanic population has increased, and for most of these students English is not the primary language spoken at home. Also, the number of lower socioeconomic students has risen. This combination of factors has caused concern due to a drop in achievement test scores.

Organization of the Study

The study is divided into five chapters. Chapter 1 contained an introduction, statement of the problem, statement of the purpose, research questions, definition of terms, limitations, and justification for the study. Chapter 2 includes a review of relevant literature on behavior management and discipline, behavior management and academic achievement, types of behavior management programs, Title 1 schools, and teachers' experience levels and impacts on student performance. Chapter 3 presents the methodology and procedures used in the research process. Chapter 4 contains the analysis and data comparisons collected in the study. The conclusion and recommendations derived from the research are found in Chapter 5.

CHAPTER 2

REVIEW OF SELECTED LITERATURE

The challenge of teachers to provide positive and safe classrooms for divergent student populations while meeting the accountability challenges of state and federal governments is explored in this chapter. Literature regarding these complex topics are organized into the following sections: Classroom behavior management, relationship of classroom management to school violence, accountability, behavior management and academic achievement, cultural diversity, poverty and punishment, early intervention, decision making based on data, staff development, behavior management programs, and a summary.

Classroom Behavior Management

One of a teacher's most essential responsibilities is managing classroom behavior in a positive and well thought-out manner, for without effective classroom management there is no effective teaching (Hastings & Schwieso, 1995). Classroom management is a complicated process that is affected by the circumstances and the population being taught. Martin and Baldwin (1994) stated that classroom management was an intricate process that included interaction among people, instruction, and discipline. Understanding these dynamic and sensitive dimensions within the contexts in which they occur is critical to create a classroom in which teachers can instruct and students can learn.

For the purposes of this study, classroom behavior management was defined as the management of student behavior in group settings. Managing behavior is necessary to facilitate students' learning (Kerr & Nelson, 1983). Other educational researchers support the above definition (e.g., Borko & Gall, 1995; Hedges, 1997; Jones, 1989;Van Der Sijde & Tomic 1993). Johnson (1994) extended Kerr and Nelson's definition of the creation of an environment conducive to learning to include the insurance of the safety of students and staff. Managing student behavior is an essential component of a safe, violence-free environment for both students and staff in order to facilitate learning to increase student achievement.

Two behavior approaches that are the foci to this study are behavioral management and Developmental Therapy. Behavior management emphasizes changing observable, targeted behavior by using highly specific goals. Teachers can modify a student's behavior so that the specific objectives are accomplished. Careful control of antecedent conditions and consequences influence the targeted behaviors (Cullinan, et al., 1982; Polsgrove & Nelson, 1982). Developmental Therapy highlights the progression in which most students learn increasingly intricate social behaviors and the elements needed to encourage this development (Wood, Swan, & Newman, 1982). If an educator can determine the stage of social-emotional-behavioral development of a particular student, educational experiences can be modified to meet the developmental needs of the individual student at that particular stage of development (Anastasiow, 1981; Furman, 1980; Mckinnon & Kiraly, 1984; Paul, 1985; Wolfgang & Glickman, 1980; Wood et al., 1982).

Behavior Management

The principles of behavior management are based on the assumption that students are constantly engaged in learning and that every experience adds to a student's knowledge base and influences (both consciously and unconsciously) his or her subsequent actions (Sprick, Garrison, & Howard, 1998). Turnbull, Tunbull, Shank, and Leal (1995) summarized the basic principles of behavior management:

1. Behavior is an individual experience. Students frequently react differently to the same set of environmental conditions, partially due to unique past experiences and individual differences.
2. Most behaviors are learned. Most behaviors (both desirable and undesirable) are learned by a student's continuing interaction with his or her environment.
3. Behaviors can be taught and modified. New behaviors (both social and academic) can be taught and current behaviors modified by making changes in current learning environments.
4. Learned behaviors are controlled by their consequences. When a positive consequence usually follows a behavior, that behavior is more likely to recur. When a negative behavior occurs after a behavior, that behavior is less likely to occur in the future. What serves as positive and negative consequences for individual students frequently varies among students.
5. Learned behaviors are situation specific. Student behaviors are not learned and reinforced in isolation. They are learned in environments (such as home, school, and community). Each environment has its own set of antecedents

and consequences to behaviors, which contribute to different behaviors in different environments.

This approach focuses on teaching and learning and has practical suggestions for classroom use (Cullinan et al., 1982; Kazden, 1987; Kerr & Nelson, 1989; Wallace & Kauffman, 1986). According to Sprick, et al. (1998), an understanding of and skill in using fundamental behavior management principles enables a teacher to assist students to behave more responsibly by structuring the class to promote responsible student behavior, effectively recognizing responsible student behavior and finally, effectively responding to irresponsible student behavior.

Kerr and Nelson (1983) stated that the primary goal of behavior management is to bring student behavior under stimulus control, i.e., responding to teacher requests and instructional materials. This is accomplished through the systematic application of positive consequences to appropriate responses made by the student in the presence of those antecedent stimuli (e.g., teacher directions). A teacher begins developing stimulus control or management over the behavior of students determined to be "difficult" by systematic application of consequences, starting by reinforcing approximations to the desired behavior and then gradually increasing the requirement for the reinforcement until the goal has been achieved. The process of reinforcing closer approximations to desired behavior must be carried out slowly and systematically; the order of steps must be adapted consistent with the behavior of individual students. This accentuates the importance of analyzing and understanding behavior.

Sprick, et al. (1998) specified two important concepts. First, effective teachers spend more time promoting responsible behavior than responding to irresponsible

behavior; second, effective teachers recognize that misbehavior occurs for a reason, and take the reason into account when determining how to respond to misbehavior.

The idea of spending more time promoting responsible behavior than responding to irresponsible behavior is not new or unique. Other educational researchers incorporated Kounin's (1970) research finding from the now classic book entitled *Discipline and Group Management in Classrooms.* This study produced findings on strategies and processes used in both effectively and ineffectively managed classrooms from kindergarten to university levels, with particular focus on 80 elementary classrooms. He found that effective and ineffective classroom managers did not differ much in the methods for dealing with disruption but, effective managers were found to be much more skilled at preventing disruptions from occurring. Kounin's research findings have consistently received validation from later researchers (e.g., Cotton, 1990a). Kounin documented five specific behaviors effective managers performed to maintain students' focused attention on learning and reduce the likelihood of classroom disruptions. Those behaviors for teachers as identified by Kounin were as follows: (a) communicating to the students by his or her behavior that he or she is aware of what is occurring in the classroom (withitness); (b) attending to different events simultaneously, without being totally diverted by a disruption or other activity (overlapping); (c) conducting fast-paced continuous activities with smooth transitions from one event to another and providing cues (like standing near an inattentive student); (d) maintaining students' attention to the given task; and (e) providing a variety of work that offers a challenge (Cotton, 1990b). Teachers need to focus the majority of their resources on promoting responsible behavior by using effective instruction, providing positive

feedback when appropriate, and ensuring no negative results for students when they behave responsibly (Sprick et al., 1998). This will prevent most misbehavior.

Sprick and his coauthors noted a second important concept, that effective teachers recognize that misbehavior occurs for a reason, which needs to be considered when determining how to respond to misbehavior. Misbehavior has been defined as disturbances ranging from slight infractions (such as talking out, inappropriate movement, and clowning around) to serious disruptions such as having weapons, fighting, and severe willful disobedience (Kounin & Gump, 1974; McGarity & Butts, 1984; Palardy, 1993).

When a student or group of students exhibits chronic misbehavior, the behavior is not random. Noting that misbehavior has a purpose has importance. It is difficult to understand why a student misbehaves, especially when the consequences appear offensive. To effectively manage the behavior, the function the behavior is serving needs to be determined (Sprick, et al., 1998). Possible functions of the behavior may include that the student does not understand what is expected of him or her, does not know how to demonstrate the appropriate behavior, is unaware that he or she has done something wrong, is being reinforced by some pleasant outcome of the misbehavior (such as attention), is avoiding some unpleasant outcome by exhibiting the misbehavior, such as getting out of work (Dinkmeyer, McKay, & Dinkmeyer, 1980; Porter, 1983; Sprick et al., 1998). Once the function of the behavior has been determined, actions can be taken to reduce and eventually eliminate it.

Developmental Therapy

Developmental Therapy is based upon systematic instruction in the areas of behavior, communication, socialization, and cognition. It provides a base for guiding students through a sequence of normal social and emotional developmental milestones. Students with serious behavioral issues have forceful emotions that incite their behavior more than any consequence or discipline applied to them thus overwhelming the academic process These compelling social and emotional energies are central in the learning process (Wood, et al., 1986). Like the behavior management principles discussed above, Developmental Therapy views behavior as serving a purpose for the student and also emphasizes a positive classroom climate.

Developmental Therapy is based on two fundamental ideas. First, personality development follows a general sequence of development, and second, environmental influences significantly affect personality development. A student's interactions with the environment influence the student's sense of who he or she is and impact how the student defines himself or herself. Teachers are significant factors in the social experiences of students and how school experiences impact a student's developing self-esteem and identity (Wood et al., 1986).

The Developmental Therapy model is based on four assumptions as follows:

1. Experiences normalcy vs. deviancy: Because social, emotional, and behavioral disturbances in a student are intermingled with normal functioning, it is difficult to discriminate between the two. The typical characteristics are overlooked or misinterpreted.

2. Sequential development: The social, emotional, and behavioral development is predictable and sequential yet uniquely individual.
3. Pleasure and success: Positive changes in behavior occur when developmentally appropriate behavior that results in successful and satisfying outcomes is substituted for inappropriate behavior.
4. Relevant experience: Students learn and grow by culturally and personally relevant (Wood, et al., 1986).

The role of the teacher is central in the Developmental Therapy model of classroom behavior management. The teacher is an agent for change and a reference point from which students can view themselves. The teacher is aware of his or her own personality and the impact it may have on students in addition to being an effective listener and observer. Wood, et al. (1986) see the teacher as the "pivotal psychological power" (p. 79) in the classroom who is able to conduct group and individual activities so that each student perceives he or she is safe and valued. The goal of an effective teacher is to set the overall psychological climate for the group, pacing activities to maintain maximum participation of the entire class.

In a Developmental Therapy program, behavior management is seen as a system for intervening in the physical and psychological environment of a student to promote social and emotional growth. Physical environment interventions include managing classroom rules, procedures, materials, schedules, activities, and consequences. The psychological environment refers to affective elements such as motivation, attitudes, group dynamics, social power, defense mechanisms, and needs for dependence and

independence. Physical and psychological variables are interactive and both must be considered for an effective behavior management plan (Wood, et al., 1986).

Management of inappropriate behavior involves multiple decisions made at critical points of time, requiring the teacher to act or not to act. The teacher's choice of action evokes behavioral responses from the student that are expressed both verbally and nonverbally. From the Developmental Theory perspective, behavior is defined as "the outward evidence of previously learned behavior which can be activated by a vast number of memories in response to a specific person or event in the present" (Wood, et al., 1986, p. 22). With appropriate behavior, a student can grow socially and emotionally. Development becomes nonconstructive and leads to inappropriate behavior. Behavior is seen as largely a creation of the past accumulated in memory so understanding the meaning the student attaches to a particular situation is important. When adapted in the present, and when positive results occur, the new behavior becomes part of the behavioral system. This is an incremental growth model (Wood, et al., 1986).

Two approaches to managing classroom behavior were summarized. Behavior management is based on changing observable, targeted behavior by using highly specific objectives. Developmental Theory is a model based on understanding the social and emotional level of students so that educational experiences can be modified to the developmental needs of the individual student. Both emphasize positive classroom behavior management techniques that are utilized in the interventions taught in PEGS!

Relationship of Classroom Management to School Violence

Effective classroom behavior management involves teachers managing the behavior of individual and groups of students to create environments that encourage

learning and are safe for both students and staff. According to Schiraldi, Director of the Justice Policy Institute and coauthor of *School House Hype* (n. d.), schools are very safe places for kids even though media portrayal sometimes leaves the perception that the incidence of school violence is pervasive (Lieberman, 1994). For example, in 1997-1998, the American public was assailed with media images of violence that occurred at public schools. Pearl, Mississippi; West Paducah, Kentucky; then later Littleton Colorado, the site of the Columbine High School shootings, left the public with the erroneous perception that schools were unsafe places for children (Donohue, et. al., n. d.). In the months following the 1997-1998 school year, policy makers reacted to the perceptions of public opinion. School safety was a concern of parents and politicians (Donohue, et al.). Policy was passed on fears of school violence that may have been unfounded or exaggerated.

While schools are relatively safe, overall violent youth crime in society has increased in the last 25 years. While arrest rates for violent crimes declined 4% for the first time in 10 years, the arrest rates for young people aged 14 to 24 years continued to increase (Walsh, et al., 1996). The Federal Bureau of Investigation reported that violent crimes committed by juveniles aged 10 to 17 had dramatically increased during the 1980s and 1990s (Curcio & First, 1993). Nearly 20% of all violent crime arrests in 1994 involved juveniles under the age of 18 (Snyder, Sickmund, & Poe-Yamagata, 1996). One of the strongest predictors for aggressive behavior at age 19 is aggressive behavior at age 8 (Ashcroft, 1999). Issues related to youth violence and safety are one of the foremost concerns in American schools today. The research of Capaldi and Patterson (in press) indicated that violent juvenile youth displayed predominantly antisocial behavior patterns

from earliest childhood. The at-risk group for homicide perpetrators has shifted to a younger age with African American males having the highest and most rapidly increasing homicide rates. Even though schools are safe environments, educators are dealing with a youth population that is committing more violent crimes at younger ages which has significant implications for classroom behavior management and school achievement.

Collecting national data about rates of actual victimization is difficult and limited because schools and school districts are not required to report incidents of school violence or crime to a single national agency. The information available is typically based on surveys of personal experiences and perceptions that poll representative samples of educators and/or students and are then generalized to the total population (Arnette & Walseben, 1998). There was no national reporting mechanism for shootings, homicides, or suicides that occurred at schools until the release of the 1998 Federal School Crime and Safety Index (Kaufman, et al., 1998). School fatalities have been monitored from newspaper reports collected by The National School Safety Center (NSSC). It is not a scientific study. Data are limited in scope in that details relate to victims and not the perpetrators. Facts are limited to sex of the victim, location of incidents, ages of victims, methods of death, and purported reasons for death.

Standardization of information is also an issue regarding the clarity of data interpretation. Ambiguity of the questions and terminology regarding violence make interpretation of the data difficult. The procedures used to assess violent incidents on school campuses and how reliability and validity checks of student's self-reports affect incidence rates of school violence (Cornell & Loper, 1998; Rosenblatt, & Furlong. 1997). Cornell and Loper found that the incidence of school violence is significantly higher

(58.6%) among students failing reliability checks while students who passed the reliability check reported only 19.2% incidence of violence. Similarly, Rosenblatt and Furlong found that self-reported school victimization was almost 100% among students whose responses failed prespecified reliability checks. Known rates of various sorts of school violence are most likely overestimates of their true rates because most studies do not report the use of any response reliability or validity rates (Furlong, Morrison, Bates, & Chung, 1998).

Educators have only recently begun to investigate violence involving youth and violence occurring at school (Furlong & Morrison, 2001), though there is a growing trend to standardize incident reporting at various levels of government. Researchers from public health and criminology, using an epidemiological model, have provided most of the databases that supply school violence incidence information. Educators and psychologists are more familiar with the psychometric model. Therefore, most of what is deduced about school violence is based on responses to single items with untested properties. Methodological issues in school violence research needs further research.

Contributing Factors of Violence

Garbarino (1999) spent 25 years studying violence in the lives of children and youth in a variety of settings, including war zones, around the world. In his book *Lost Boys: Why Our Sons Turn Violent and How We Can Save Them* (1999), he discussed some of the conclusions he has drawn about boys who become violent (males commit more than 90% of all lethal assaults). He concluded that the problem of lethal youth violence begins with a combination of early difficulties in relationships involving difficult temperament and negative experience, which lead to difficulty with behavior.

Some children with impulsivity, emotional insensitivity, high activity levels, and less than average cognitive ability, are challenging for their parents. When significant adults in the lives of difficult-temperament children withdraw and abandon them, they become increasingly frustrated and struggle to pay attention in school. Frequently, these children go on to form or join aggressive and antisocial peer groups that escalate into childhood and adolescence.

Temperamentally vulnerable children are often victims of abuse (physical and emotional) and neglect and develop a negative pattern of relating to the world in general. The resulting negative pattern for these children has four parts: (a) being hypervigilant to negatives in the social environment that surrounds them, (b) being unaware of the positives, (c) developing a tendency to react aggressively when frustrated, and (d) concluding that aggression is successful in the world. Students with these attitudes and characteristics can be challenging to manage in a classroom impacting not only their own learning but also the learning of those around them (Garbarino, 1999).

Garbarino (1999) reasoned that the social environment significantly affects troubled boys. The glorification of violence in the media (television, movies, music, and video games) affects aggressive boys more than others, as does the large size of some high schools (large defined as having more than 500 students, grades 9-12). Access to drugs and guns is another example of the social toxicity that negatively impacts these lost boys. The American Psychological Association (1993) supported this analysis in their report, *Violence and Youth: Psychology's Response.*

The research of Capaldi and Patterson (in press) indicated that violent juvenile offenders most often share three characteristics: 1) they have their first felony arrest at

age 10 or younger; 2) their first arrest tends to be for a serious offense; and 3) they are chronic offenders (three or more arrests by early adolescence). The greater number of these youth engaged in principally antisocial behavior patterns from earliest childhood. This means more children, some as young as ten or younger, are displaying aggressive and disruptive behavior patterns. Because they come to school, teachers must find ways to educate them and manage their behavior in safe classrooms.

Violence in public education facilities reflects a much broader community problem. Multiple domains of family, community, school, and individual/peer group are related to each other. When a student comes to school, he brings all these areas of life with him, including the problems and potential for violence. Bullies, gangs, substance abuse, and violence in the community may be causes of fear for some youths and may affect school attendance as well as educational opportunity (Arnette & Walseben, 1998). A developing area of research suggested that preventing destructive youth behaviors begins with addressing the risk factors particular to one or more problem behaviors in addition to protective factors. Environmental conditions to which children are exposed, or risk factors, increase the likelihood that children will engage in future negative behaviors (Kadel, Watkins, Follman, & Hammond, 1999). Knowledge of risk factors can increase a teacher's understanding of the needs of her or his students and assist in selecting the appropriate intervention for inappropriate behavior (see Table 1).

Hawkins, Catalano, and Miller (1992) and Dahlberg (1998) identified adolescent risk factors for violence, school dropout, substance abuse, delinquency, and teen pregnancy. According to their research, the risk factors identified for each area predicted later problem behaviors across racial, cultural, and socioeconomic groups. Further, the

Table 1

Key Risk Factors for Aggression, Violence, and Delinquency

- History of early aggression
- Beliefs supportive of violence
- Attributional biases
- Social cognitive deficits
- Family factors
- Problem parental behavior
- Low emotional attachment to parents/caregivers
- Poor monitoring and supervision of children
- Exposure to violence
- Poor family functioning
- Peer/school factors
- Negative peer influences
- Low commitment to school
- Academic failure
- Certain school environments/practices
- Environment/neighborhood factors
- High concentrations of poor residents
- High levels of transiency
- High levels of family disruptions
- Low community participation
- Diminished economic opportunity
- Access to firearms

Note. From "Youth Violence in the United States: Major Trends, Risk Factors, and Prevention Approaches," by L. Dahlberg, 1998, *American Journal of Preventive Medicine, 14*(4).

more risks children experienced, the greater the likelihood that the children would eventually engage in the negative behaviors associated with the risk factors. The child's age affected the impact of the risk factors also.

A history of early aggression is one of the strongest predictors of later aggression and criminal involvement (Thornberry, Huizinga, & Loeber, 1995; Walker, 1997). Longitudinal studies show that aggression is stable across generations and over time (Huesmann, et al., 1984; Patterson, 1983). Aggression is associated with adolescent delinquent behavior, aggravated assault, and armed robbery (Walker, 1997). Research suggested that violent trauma during a child's first three years may cause extreme and perhaps permanent brain changes (Burman & Allen-Meares, 1994). Intervention prior to violence becoming a part of a child's repertoire of behaviors appears instrumental to cultivating prosocial behaviors and development.

Most children who become violent toward others or themselves feel rejected and victimized (Guerra, Huesmann, Tolan, Van Acker, & Eron, 1995). A study completed by Song (1998) found that exposure to violence and symptoms of psychological trauma (with anger being the most significant symptom) together explained more than 50% of self-reported violent behavior in both males and females. Malik, Sorenson, and Aneshensel (1997) found being exposed to violence in one context seemed to have crossover effects to victimization and perpetration in another context. In addition, a victim was a likely perpetrator and a perpetrator was often a victim. The one common predictor to violence in their study was the exposure to weapons and injury in the community (Malik, et al., 1997). The research of Malik, et al. (1997) and Garbarino

(1999) substantiate the importance of supportive social environments in which youth feel they belong.

Emotional attachment and bonding research suggested children who have experienced rejection, neglect, and/or indifference from parents were at greater risk for aggressive and antisocial behavior (Loeber & Stouthamer-Loeber, 1986). Neglectful parents are not responsive to the needs of their children, demanding little of them. Aggression and other problem behaviors have been reported in homes where a parent has an antisocial personality, a history of criminal behavior, or drug abuse (Dahlberg, 1998). Poor parenting practices that are common with the above social histories led to insufficient supervision of children and poor communication with them. In short, the lack of effective bonds and controls over behavior put children at risk for later violence (Elliot, 1993).

This section focused on the relationship of classroom management to school violence. Effective classroom management ensures environments that are both safe and educational. American schools are generally safe places for students but schools are dealing with a youth population that is committing more violent crimes at younger ages which impacts classroom behavior management and school achievement. Violence in public schools reflects a broader community problem. Risk factors for aggression have been identified and research indicates that a history of early aggression is one of the strongest predictors of later aggression and criminal activity.

Accountability

The educational accountability movement to increase student achievement has received much pubic attention in recent years at both the federal and state level. Coupled

with the legal statutes requiring educators to better manage learning environments and student behaviors that came about in response to public concern for school safety, educators have encountered numerous mandates that have impacted the way teachers and administrators deal with classroom behavior management. Other legal stipulations that have impacted classroom behavior management relate to individuals with disabilities and their rights to an appropriate education in the least restrictive environment. A synopsis of laws that apply to classroom behavior management, student achievement, and individual rights is presented in this section.

Federal

President Bush signed into law the reauthorization of the Elementary and Secondary Education Act (ESEA) now known as the *No Child Left Behind (NCLB) Act of 2001*. It redefines the federal role in K-12 education and is intended to close the achievement disparity between disadvantaged (low SES) and minority pupils and their peers. It has four basic components: stronger accountability based on results, increased flexibility and local control, increased options for parents, and an emphasis on research-based teaching methods (U.S. Department of Education, 2002). Students in grades 3 through 8 will be tested in reading and math. Annual report cards of school performance and statewide progress will become mandatory. Parents will have federal support to transfer their children from failing and or dangerous schools. NCLB was signed into law on January 8, 2002, so the full impact it will have on public education is yet to be seen.

In 1975, a major legislative initiative: Public Law 94-142, the Education for All Handicapped Children Act, passed. Public Law 94-142 provided funding for services needed to educate students with disabilities. It was later reauthorized and became the

Individuals with Disabilities Education Act (IDEA). IDEA makes available wide-ranging legal rights, procedural protections, transition services, and federal funding for children with disabilities to assure them a free appropriate public education (FAPE). The special education and related services, based on the child's individualized education program (IEP), are free to parents and students and provided through an appropriate educational program, under public supervision. Part of the IEP development includes making decisions about appropriate placement for the child. "According to § 1414 of the IDEA, children with disabilities must be placed in the 'least restrictive environment' (LRE)." To comply with LRE requirements, the IDEA mandated that:

> To the maximum extent appropriate, children with disabilities, including children in public or private institutions or other care facilities, are educated with children who are not disabled, and special classes, separate schooling, or other removal of children with disabilities from the educational environment occurs only when the nature or severity of the disability of a child is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily.
>
> 20 U.S.C. §1412 (1997)

Another important provision in the IDEA is "stay-put" which stated that:

> [D]uring the pendency of any proceedings conducted pursuant to this section, unless the State or local educational agency and the parents otherwise agree, the child shall remain in the then-current educational placement of such child, or, if applying for initial admission to a public

school shall, with the consent of the parents, be placed in the public school program until all such proceedings have been completed.

20 U.S.C. §1415 (1997)

Section 504 of the Rehabilitation Act of 1973 provides antidiscrimination protection. It requires reasonable modifications and accommodations for those with disabilities and specifies that students with disabilities may not be suspended, expelled, or otherwise punished for manifestations of their disabilities.

Both IDEA-97 and Section 504 of the Rehabilitation Act of 1973 have changed the composition of students in a typical classroom. Disabling conditions such as attention deficit disorders, emotional disorders, and learning disabilities often impact a child's understanding of social situations and behavior in socially acceptable ways. These students are now in regular classrooms and teachers must resolve the challenges of maintaining behavior conducive to academic achievement with a diverse student population.

State

Georgia has two statutes that deal with misbehavior. One concerns chronic disciplinary problem students and the other bullying. The first law defines a chronic disciplinary problem student as one who demonstrates a pattern of behavior characteristics which impedes with the learning process of students around him or her and which are likely to recur (Murphy, 2000). [O.C.G.A.§ 20-2-764(1)] If an educator identifies a student as a chronic disciplinary problem, the principal must notify parents (guardians) of the disciplinary problem, invite the parents (guardians) to observe the student in a classroom situation, and request at least one parent (guardian) to attend a

school conference to devise a disciplinary and behavioral correction plan. The regulation provides that, prior to a student returning from a suspension or expulsion, the school must request a parent conference to formulate a disciplinary and behavioral correction plan. However, if the parent (guardian) does not attend the meeting, the school cannot prohibit the student's readmission to the school.

The *Improved Student Learning Environment and Discipline Act* of 1999 (otherwise known as HB 605) mandated numerous requirements that impacted educators throughout Georgia, including the following:

1. the implementation of a mandatory comprehensive K-12 (kindergarten through twelfth grade) character education program and providing opportunities for parental involvement in the program.;
2. required teacher development for certain situations involving classroom management.;
3. required adoption of local policies designed to improve student learning environments by improving student behavior and discipline, including policies regarding student codes of conduct, student support services, progressive discipline processes and parental involvement processes.;
4. required minimum standards for such policies developed by the State Board of Education (SBOE);
5. required opportunities for parental involvement in developing student codes of conduct at the local level;
6. required written reports by teachers of student misconduct and notices to students' parents that must be included in local board of education policies;

7. teachers have the right to manage their class and remove a student.;
8. required placement review committees at each school to determine the placement of a student when a teacher withholds consent to return to the teacher's class the principal or designee must implement the placement review committee's decision;
9. voluntary implementation by local boards of education of training programs in conflict management and resolution and in cultural diversity;
10. required annual reports regarding disciplinary and placement actions taken during the prior school year. [O.C.G.A. §20-2-764(1)]

Balancing the needs of the individual against the growing accountability mandates have created challenges and opportunities for the educational community which continue to evolve as these pieces of legislation are interpreted in courts.

The of 2000 (Georgia House, 2000) is a comprehensive educational reform statute passed by the Georgia General Assembly to increase student academic performance, to improve school completion, and to hold local schools accountable for student progress. It established various groups overseen by the Education Coordinating Council including The Office of Education Accountability (OEA). The OEA is responsible for developing state-wide educational accountability systems, auditing and monitoring educational agencies at all levels, and assisting the Council in the development of a statewide education student information system (Office of Educational Accountability, 2001). Rewards and interventions are a part of the accountability mandate; included are report cards, financial rewards for schools/school systems, teacher recognition, and public awareness. The school report card documents a school's academic achievement as compared to the state average.

Also part of the of 2000 was the creation of an Early Intervention Program (EIP) in kindergarten and a Primary Grades Early Intervention Program in grades 1-3 for students performing below grade level. The EIP was extended to include grades 4-5 in 2001 through House Bill 656. This program provides specialized instruction in smaller classes to students determined to be performing below grade level. The school must provide timely notice and an opportunity for a conference with the student's parents (or guardians) to discuss the student's developmental deficiencies and opportunities for addressing those deficiencies. The program for assistance is considered temporary (Georgia Partnership for Excellence in Education in Education Issues and Actions). The emphasis on student academic achievement places pressure on teachers and administrators to maximize instructional opportunities that are affected by the classroom behavior of the students.

The Georgia Board of Education (SBOE) adopted new Georgia special education rules based on the federal requirements for the IDEA issued in 1999. Portions of the policy of the SBOE/Code IDDF related to school discipline and behavior follow:

1. School systems shall provide high-quality, intensive professional development for all personnel to ensure that they have the skills and knowledge necessary to enable students with disabilities to: meet developmental goals and those challenging expectations established for all students; and to be prepared to lead productive, independent, adult lives.
2. School systems shall provide incentives for whole-school approaches and pre-referral intervention to reduce the need to label students.

Increasing the intensity of testing programs and changing standards for promotion and graduation are common methods of applying pressure on schools, though the effect in student learning is questionable (Joyce & Showers, 1995). Instead, some of these tactics to improve student achievement and school safety have actually increased retention and dropout rates (Gamoran & Berends, 1987). Also, increasing the standards has the effect of increasing the number of students requiring extra assistance (U.S. Department of Education, 2001).

These legislative decisions renewed the emphasis on early intervention and student support teams. Educators are expected to proactively manage students at-risk for learning and behavior weakness. The need for effective supervision, staff development, and data based school practices is a logical result of the legislation.

Behavior Management and Academic Achievement

Under the new (2000), the state's evaluation criteria include measures used in corporate evaluations of employees. Principals and assistant principals must perform observations of teachers during the delivery of instruction. The following items must be evaluated: (a) how a teacher meets the school's student achievement goals, including the academic gains of students assigned to the teacher; (b) participation in professional development opportunities and the application of the concepts learned to classroom and school activities; (c) communication and interpersonal skills as they relate to interaction with students, parents, teachers, administrators and other school personnel; (d) timeliness and attendance for assigned responsibilities; (e) adherence to school and local school system procedures and rules; and (f) personal conduct while in the performance of school duties. (www.gpee.org)

Cultural Diversity, Poverty, and Punishment

American schools have become more multicultural organizations taught by primarily white educators (McIntyre, 1992a). The cultural contrast between students and teachers is more evident in special education settings where minority students are over-represented in various programs for those with disabilities (Chinn & Hughes, 1987; Viadero, 1992). In fact, Sugai and Maheady (1988) and Hanna (1988) found that children who displayed culturally diverse behaviors, especially recent immigrants (Sugai, 1988), were more susceptible to diagnosis for behavior disorder. Culturally based behaviors may be misinterpreted by teachers who in turn make referrals for special education or at least disciplinary action (Foster, 1986; Grossman, 1990; Hanna, 1988). This occurrence may be partially explained by the differences between parental expectations and those of schools' (Almanza & Moseley, 1980; Grossman, 1990). Most people identify with only their culture and find understanding culturally different behavior problematical (Grossman, 1990; McIntyre, 1992a).

Traditional teaching methods are frequently discrepant with the culturally preferred learning style of minority students (Blackorby & Edgar, 1990). For example, typical classrooms tend to be individualistic and competitive which is the antithesis of the more cooperative learning style of Hispanics, African Americans, and Native Americans (Brendtro, Brokenleg, & Van Bockern, 1991; Grossman, 1990). To further clarify, Grossman (1990) offered this example of cultural misunderstanding as students from one of the above mentioned cultures assisted a peer by allowing him to copy his answers. In one culture it was an act of generosity and in another it was considered cheating. If this occurred in a classroom where the teacher was insensitive or not knowledgeable about

this difference, she may then have used her traditional culturally based disciplinary behavior thus creating more inappropriate behavior (McIntyre, 1992a).

Light and Martin (1985) reported, "An understanding of cultural expectations and roles can contribute to the development of child management techniques specifically designed to eliminate value differences between a child's family, the school system, and the larger society. Bauer, Dubanoski, Yamauchi, and Honbo (1990) recommended a positive discipline approach; skilled educators attract rather than coerce students into appropriate behavior.

Payne (1998), a nationally and internationally known consultant in the area of generational poverty, began sharing her expertise in this area at the request of a school administrator who asked Payne about a staff development program on discipline. As they discussed the topic, the fact that the school population had changed from 24% low income (as measured by the number of students receiving free and reduced price lunch) to 60% low income over the past three years was communicated. Payne explained that the underlying purposes of the behaviors causing the discipline issues described by the administrator were related to poverty.

Poverty, as defined by Payne (1998), was "the extent to which an individual does without resources" (p. 16). Payne contended that poverty depends more upon other resources than just financial ones. The level of emotional, support systems, relationships (role models), and knowledge of hidden rules resources determine how impoverished an individual is at a particular time.

Emotional resources refer to being able to choose and control emotional responses, particularly to negative situations, without engaging in self-destructive

behavior. This internal resource shows itself through stamina, perseverance, and choices. If a person is to move from poverty to middle class, the individual must change previous ways of responding emotionally because situations and hidden rules are radically different from past experiences. Consequently, an individual must be persistent with new situations until they can be learned and become comfortable. Role models assist in the transition from one way of responding to another. This persistence demonstrates the presence of emotional resources.

Having friends, family, and backup sources available in times of need is a part of a person's support system. Support systems, an external resource, include knowledge, financial, and emotional bases. Support systems help a student answer questions like, How does one get into college? Who can help one understand paperwork? Who can assist with algebra homework when family members do not?

Payne (1998) defined the resource of relationships (role models) as having frequent access to appropriate adult(s) who are nurturing to the child and do not engage in self-destructive behavior. It is primarily from role models that the child learns how to live life emotionally.

Knowing the unspoken cues and habits of a group (e.g., poor, middle class, wealthy, and/or ethnic) is the final resource of discussion. It is important to understand the hidden rules about the significant, unspoken understandings (regarding things such as food, dress, decorum) that prompt group members as to whether that a person belongs or not. Payne (1998) gave three rules of poverty to clarify this point:

1. the level of noise is high (the TV is always on and everyone talks at once);
2. nonverbal information is most important;

3. one of the main values of an individual to the group is the ability to entertain.

Knowledge of the distinctions of poverty is important for educators to better understand students who come from impoverished environments. Before listing some of these characteristics, Payne (1998) cautioned that her work is based on patterns and all patterns have exceptions:

1. There is a difference between poverty that is generational (the poverty has lasted for two generations or longer) and situational (the poverty is shorter in time and brought about by circumstances such as divorce, death, or illness).
2. Students bring the hidden rules of the class in which he or she was raised. Despite a change of income, many patterns of thought, social interaction, thinking skills, etc. remain with the person.
3. Schools and businesses operate from middle-class norms and use the hidden rules of middle class (which are not directly taught in schools or businesses).
4. In order for poor students to be successful, educators must understand their hidden rules and teach students the rules that will make them successful at school and work.
5. Students can neither be excused nor scolded for not knowing the hidden rules. Educators must teach the rules and provide support, insistence, and expectations.
6. Students must give up relationships for achievement (at least for a period of time) to move from poverty to middles class or middle class to wealth.

For schools to be effective learning environments, they must be safe and predictable. Problem behavior is the single most frequent reason why students are referred for removal from school. Punishment and exclusion are the most common

responses to difficult behaviors yet research indicates that reprimands, detentions, and exclusion are ineffective strategies for improving student school behaviors (*Prevention Research & IDEA Provisions: A guide for School Administrators* (retrieved October 7, 2001 from the Office of Special Education Programs). The guide further documented that students with chronic/intense problem behavior consist of 1% to 7% of the school population, and students at-risk for problem behavior comprise 5% to15%. Essentially, a small number of students require a significant amount of adult time and energy and negatively impact learning environments. In order to alleviate aversive situations, adults in schools continue to choose traditional interventions that produce immediate relief (remove student and punishment) but not lasting improvements in student behavior and academic achievement.

Studies indicate teachers and administrators frequently emphasize punitive measures for regulation of inappropriate behavior. This overemphasis of punishment occurs with all students, but disproportionately with males, minority students, and particularly students from low-income homes (McFadden, Marsh, Price, & Hwang, 1992; Shaw & Braden, 1990). Other factors contributing to increased incidence of behavior problems among minority children and children living in poverty include cultural and norm differences of the child's community and those of the school (Delpit, 1995; McIntyre, 1996). Children who live in poverty are at greater risk of being exposed to a combination of socialization factors shown to be associated with discipline problems: harsh parental discipline, lack of parental warmth and support, exposure to aggressive adult values and behavior family live stressors, instable peer groups, and lack of cognitive stimulation (Conger, et al., 1992; Dodge, Petit, & Bates, 1994). The presence

of these factors help explain the greater incidence of discipline problems among African American and Hispanic American children, two rapidly growing populations that are twice as likely as white children to live in poverty (U.S. Department of Education, 1996).

Educators in low-income areas and/or low white-percentage schools more frequently endorse the use of punishment and the removal of students Than do those in higher-income and higher white percentage schools (Moore & Cooper, 1984). When punishment is applied to most rule infractions, whether trivial or significant (e.g., tardy, pushing or physical aggression), the school climate can become overly punitive; particularly for students who engage in a variety of misbehaviors. Following this line of thinking, when punishment is applied frequently over extended periods of time, as would be necessary for a wide range of misbehaviors, it loses its effectiveness because students adapt to the punishment. For example, shouting soon loses its effectiveness for a child who is yelled at home and school, shouting becomes familiar so it is tuned out (Mayer, n.d.).

Early Intervention

There has been an increase in research in the neurobiological, behavioral, and social sciences that has led to major advances in understanding the conditions that influence the lives of young children. Scientific gains have highlighted the importance of early life experiences and the influences of genetics on the development of the brain and human behaviors, the vital role of early relationships, the essential social skills that develop during early life, and the power of planned interventions to increase favorable developmental outcomes (Shonkoff & Phillips, 2000).

According to Walker, Severson, and Feill (1994), approximately 750,000 school-age children have received no specialized school services for school behavior and adjustment issues; this is a conservative estimate. Specific action is taken only after a child is having serious behavioral problems or his or her attendance becomes significantly impacted. Walker and Severson described the regular class teacher as the primary link between the at-risk student and school based intervention services. They contended that teachers are not provided regular training opportunities for identifying at-risk students. The expertise and knowledge of classroom teachers could be better utilized for the purpose of preventing youth violence and increasing school achievement by ensuring that they have better training.

Decision Making Based on Data

More educators realize the importance of using data as the basis of planning and decision making. Accurate and appropriate data empower school leaders and planning teams to select goals and strategically plan. Other purposes for collecting data are to demonstrate integrity, make quality decisions, and educate school communities (Calabrese, 2000a). An important aspect of decision making is identifying the problem. Calabrese (2000a) recommended using the medical model for identifying the correct problem. Physicians continually make decisions informed by data; data are collected based on symptoms in the effort to determine potential causes. When dealing with difficult behavior, reacting to inappropriate behavior without understanding the purpose of the actions maintains the cycle of misbehavior. Formalizing data collection processes enables educators to analyze trends and situations in order to proactively manage student behaviors for safer schools and put in place necessary academic supports.

School records are a useful source of data because they accumulate over time as part of the daily routine. According to Walker and McConnell (1998), a noted researcher in the area of student misbehaviors, school records are significantly underutilized, particularly in the areas of detecting at-risk behaviors, determining placements, and planning student-centered intervention programs. He stated that the systematic use of school records has received only limited attention in both regular and special education literature. In instances where school records have been used to screen, validate, or describe student status, they have proven to be sensitive in discriminating the academically and socially proficient students from those who are less skilled or well adjusted (Buckley, 1974; Forness, Gutherie, & Hall, 1976: Giesbrecht & Routh, 1979; Kelley, 1977; Mattick, 1963). Walker, Stiebers, and O'Neill (1990) found a correlation of .79 between school discipline contacts (written records in school files) over a one-year period from grade 5 to grade 6.

Tobin and Sugai's (1999) research supported use of school records of discipline referrals as a screening device. For example, referrals for violence involving fighting, in grade 6 predicted similar referrals in grade 8. The frequency of discipline referrals in grade 6 predicted chronic discipline problems in later middle school, which predicted frequency of suspensions in grade 9. They found that three or more suspensions in grade 9 predicted school failure.

Sprick (2000) recommended a simple spreadsheet that summarizes the following information to assist in decision making related to discipline day of the week, month of the year, time of day with most referrals, teachers with most referrals, type of offense, student's name, infraction, location of infraction, gender, and consequences. Who are the

referrals coming from and why? Whatever trends the educator observes should lead to a change in pace, structure, or range of activities (Sprick, 2000).

Action planning is the process of using a school's assessment plan to determine priorities for programs, practices, and resources with the goal of improving student performance (Carr & Harris, 2001). Action planning is a four step-planning model. It begins with examining student performance results, followed by the examination of other sources of information. The information is summarized and the findings interpreted. The final step is to link the results to the action steps.

For schools interested in renewal and improvement, the use of data in action research projects can be useful. Action research uses the cycle of fact finding, decision making, revising, and evaluating. Data-driven decision making provides information on the effectiveness of current practices so educators can make informed judgments when adjusting efforts for improvement.

"The capacity of a system to renew itself continuously is dependent in part on the capacity for renewal of the men and women in the system. The structures and processes don't design themselves" (Gardner, 2000). Having an abundance of information is not useful in and of itself. Decision making is an integral part of competence: it separates successful people from unsuccessful people (Calabrese, 2000b).

Staff Development

Sanders and Rivers (1998) found that an effective teacher has a greater impact on student achievement than such variables as ethnicity and poverty, which often have been considered overpowering barriers to academic success. Sanders and Rivers, who conducted the 1998 study, *Cumulative and Residual Effects of Teachers on Future*

Student Academic Achievement, found that the classroom teacher was the single biggest factor affecting academic growth. Anderson and Brewer's research (1939) established that teachers' actions influences that of their students. Further, it made clear how understated and complex are the relationships between teachers and students. For example, in classrooms where teachers were more cooperative, the students found ways of behaving more cooperatively with their peers. The antithesis was also found; in the classrooms where teachers were more dominating, the students learned how to be more dominative toward one another (Flanders, 1970; Medley, 1977; Medley & Mitzel, 1963).

An integral part of all violence prevention and improved student performance is teacher preparation and staff development. Wang, et al. (1993) reviewed over 11,000 relationships using three different methods in search of the educational, psychological, and social factors that influence student learning. Their findings indicated that proximal variables (e.g., psychological, instructional, and home environment) were more influential than distal variables (e.g., demographic, policy, and organizational). Having sufficient and directed staff development programs that emphasize proximal factors and impact curriculum and instruction are the basis of successful school improvement programs. Plans that avoid the learning environment or do not support the change with strong staff development usually fail to achieve desired goals and create more frustration (Joyce & Showers, 1995).

According to Zepeda (1999), converting a school into a learning culture begins with the principal: "The principal sets the tone for learning by modeling active learning, investing time in the process, and empowering teachers as leaders" (p. 68). As more schools become decentralized and participate in shared decision making, the need for

personal and profession development for teachers becomes more vital. New forms of instructional supervision are emerging in the form of mentors, peer coaches, school-based teacher educators, clinical teachers, collaborative action researchers, and instructional study teams. These new leadership roles for teachers support professional growth and development of experiences for preservice teachers, beginning teachers, and experienced teachers (Oja & Reiman, 1998).

The importance of effective staff development programs is further highlighted by current initiatives that permit alternative certification procedures, such as Governor Barnes's Teach for Georgia (part of the). The National Commission on Teacher and America's Future (1996) reported that a little over 12% of all newly hired teachers are not licensed and almost 15% have substandard licenses. Differences in teacher qualifications and experiences accounted for 90% of the variance in student reading and math scores at grades 3, 6, and 8. Far more than any other factor, teacher experience made the difference in what children learned (as cited in Darling-Hammond, 1997). Numerous studies have shown that uncertified and novice teachers without pedagogical training, such as those educators who have alternative teacher preparation programs, have neither the pedagogical knowledge, nor the knowledge of diverse students needed to translate their knowledge of subject matter into effective instruction (Clarridge, 1990; Hawk, Coble, & Swanson, 1985). These teachers have a propensity to provide too much content without regard to whether students were learning. They could not get students on task, plan or develop appropriate goals, motivate students, manage the classroom, deal with discipline problems, give feedback, or use a variety of teaching techniques. The lack of or inconsistent support for staff, including staff development, promotes a negative

environment, with staff tending to respond with higher rates of absenteeism, a greater reliance on punitive of methods classroom control, and inconsistent follow-through or support of the school discipline policy (Manlove & Elliott, 1979; Mayer, 1995). This results in a cycle of more student misbehavior evoking more punishment from the teacher (Mayer, n.d.). Effective staff development is one vehicle schools can utilize to promote understanding of cultural differences and poverty.

The most difficult skills for teachers to acquire are those involving instruction to the whole class or small groups especially those who rely on seatwork and instructional materials to do the teaching. (Joyce & Showers, 1995). Effective teachers keep the teaching sessions task-oriented, keep instruction relaxed, have high expectations for achievement (give more homework, pace lessons faster, create alertness), and relate comfortably to the students, with the consequences that they have fewer behavior problems (Joyce & Showers, 1995). Nevertheless, behavior problems do and will continue to occur.

Staff development courses designed to teach new skills to students are most effective if all staff, including administrative and non-teaching staff, are involved. New hires require training. A qualified and skilled person should conduct training with follow-up as needed. The degree to which a new program is successfully implemented depends largely upon the support provided to those implementing the program, and coordination among staff so that it is consistently implemented, modeled and reinforced. Over time leaders should ensure consistency and continued effectiveness (Dwyer & Osher, 2000).

Behavior Management Programs

In response to the prevalence of school discipline problems, many educational program developers have prepared and marketed packaged programs meant to reduce discipline problems. Research on program effectiveness is lacking with much of it technically unsound and inconclusive (Cotton, 1990a). As part of a school research project for the U.S. Department of Education Cotton (1990a) wrote an overview of programs and research findings of packaged programs purported to reduce inappropriate behavior that are summarized in Table 2 (Cotton, 1990b). For the reasons discussed above, research results should be taken as uncertain though components have been validated as effective.

Safeguarding Our Children: An Action Guide (Dwyer & Osher, 2000) is a follow-up resource to the *Early Warning Guide* (Dwyer, et al., 1998) that was written at the request of former President Clinton, the U.S. Department of Education, and the Department of Justice. *An Action Guide* presented research-based strategies that demonstrated comprehensive approaches to school safety, of which classroom behavior management and academic achievement is a part. The document contained overviews and some research findings, though the inclusion of the programs did not imply endorsement or importance. Table 3 briefly summarizes program descriptions.

Practice in Effective Guidance Strategies (PEGS!) is another program that teaches classroom behavior management skills. Interactive CD-ROM (CD) technology provides animated simulations of typical classroom situations at the elementary level (ages 6 to 12) requiring teachers to use basic, positive behavior management strategies to increase student class participation and decrease negative behaviors. Adults using the program

Table 2

Programs for Reducing Inappropriate Behaviors

Program	Description	Program components	Research results
Reality therapy (RT)	Developed by William Glasser, RT involves teachers helping students make positive choices by clearly connecting students' behavior to the consequences of the behavior.	Class meetings, clearly communicated rules, & use of plans and contracts.	Modest improvements (Emmer & Aussiker, 1989; Gottfredson, 1989; Hyman & Lally, 1982).
A positive approach to discipline (PAD)	Based on Glasser's RT and grounded in teachers' respect for students and instilling in them a sense of responsibility.	Developing and sharing clear rules, providing daily opportunities for success, and in-school suspension for noncompliant students.	Generally supportive (Allen, 1981).
Teacher effectiveness training (TET)	TET is distinguishes philosophy between teacher-owned and student-owned problems. It.	Proposes different strategies for dealing with various problems. Students are taught problem-solving and negotiation techniques.	Teachers like the program and their behavior is influenced by it, but effects on student behavior is not clear (Emmer & Aussiker, 1989).
Transactional analysis (TA)	Used within the context of counseling programs, students with behavior problems use terminology and exercises from TA to identify issues and make changes.	Basic to the TA philosophy is the notion that each person's psyche includes child, adult, and parent.	Beneficial (Cobb & Richards, 1983).
Assertive discipline (AD)	AD focuses on the right of the teacher to define and enforce student behavior standards.	Clear expectations, rules, and a penalty system with increasingly serious sanctions.	Some research is supportive, but most is inconclusive about the effectiveness (Mandelbaum, et al., 1983; McCormick, 1987; Emmer & Aussiker, 1989; Gottfredson, 1989; and Render, et al., 1989).
Adlerian approaches	Variety of approaches that emphasize understanding the individual's reasons for maladaptive behavior.	Teacher helps the misbehaving student change their behavior while finding ways to get their needs met.	Some positive effects on self-concept, attitudes, and locus of control. Inconclusive results on behavior effects (Emmer & Aussiker, 1989).
Student team learning (STL)	A cooperative learning strategy	Instructional rather than disciplinary strategy	Positive effect incidence of classroom misbehavior (Gottfredson, 1989).

Table 3

Violence Prevention Programs

Program	Description	Program components	Research results
Resolving conflict creatively program (RCCP)	School-based, primary prevention program (K-12) designed to promote constructive conflict resolution & positive group interaction.	Classroom curriculum; also incorporates the training of student-based peer mediation groups & administrators.	Significant reductions in the frequency of aggressive behaviors and in types of thinking & cognitive processing leading to aggression. When trained teachers used the curriculum regularly, it was found to benefit all children, regardless grade, gender, or environmental contexts (Aber et al., 1996; Aber et al., 1998; RCCP Research Group, 1997; Metis Assoc., 1990).
Promoting alternative thinking skills (PATHS)	Classroom-based curriculum (K-5); designed to prevent violence, aggression, and other problem behaviors by developing student's social & emotional competence & problem-solving skills.	Techniques used include group discussion, role-playing, art activities, stories, & educational games. Extensive opportunities to practice new skills & assistance with applying new skills to daily life.	Significant reductions in students' hyperactivity, peer aggression, and noncompliance with staff directions. 1st grade students were found to have significantly lower levels of aggression & disruptive behaviors compared with same-age peers who did not receive the curriculum. (Greenberg & Conduct Problems Prevention Research Group, 1997; Greenberg et al., 1995).
Second step curriculum	Violence prevention social skills curriculum (preschool-8) designed to enable students to change attitudes and behaviors that contribute to violence & increase their level of social competence.	Social skill lessons are integrated into the regular curriculum once or twice a week. Teachers lead discussions, model skills & students role-play skills. Emphasis on empathy, impulse control, & anger management. Curriculum also includes a family-based component that uses a video-based parent program & a series of parent group meetings.	Moderate decreases in aggression & moderate increases in prosocial & neutral interactions over the period of one school year for students receiving the curriculum. The control group who did not receive the program increased their physical & verbal aggression for the same year (Beland, 1988, 1989, 1991; Grossman et al., 1997; Mehas et al., 1998; Moore & Beland, 1992).
Project ACHIEVE	Schoolwide prevention & early intervention program (1-8) aimed at reducing aggression & disruptive behavior that leads to suspensions, academic failure & special education referrals.	Involves organizational & resource development, comprehensive in-service training, & follow-up. Begins with strategic planning requiring teachers, staff, school-based mental health professionals, students, & families to work together to adopt schoolwide systems of effective behavior management & positive skills-oriented student discipline & to improve instructional practices & academic support.	Decrease in disciplinary referrals to principal's office; decrease in out-of school suspensions; significant decrease in student retention; significant increase in number of students who scored above 50th percentile on end-of-year achievement tests (Knoff & Osher, 1995; Quin et al., 1998).
Positive behavioral interventions and supports (PBIS)	Schoolwide prevention & intervention program that provides behavioral support to students & consultation support to teachers.	Includes behavioral support systems for schoolwide, classroom, individual, and specific settings. Utilizes various teams to oversee, monitor & develop interventions. Provides staff & teachers with a set of functional suggestions & resources for chronic & challenging student behavior.	Formal evaluation found a significant reduction in discipline referrals to principal's office, especially in the time period prior to school vacations. Findings indicated that teachers favor PBIS because of more effective teaching & behavior management (Marquis et al., 2000; Sugai et al., 1999).

Note. From *Safeguarding our children: An action guide,* by K. Dwyer & D. Osher, 2000. Washington, DC : U. S. Departments of Education and Justice, American Institutes for Research. Retrieved April 19, 2001, from http://www.ed.gov//pubs/edpubshtml

can choose from several educational environments and difficulty levels. Simulations of problem behaviors are viewed and then adult responses to the behaviors of the children are selected. As in a typical classroom, the animated students react to the teacher's choice of behavioral intervention. PEGS! emphasizes a positive classroom environment must also be assessed in terms of fiscal costs (materials) as well as staff requirements and external support. Will training be needed? Will additional staff be required or duties need to be expanded? Are consultants or facilitators part of the program or a separate fee? A final consideration is the flexibility of the program. Does it meet the particular needs of the given school?

Summary

Managing classroom behavior is an essential responsibility of a teacher. A review of literature produced a summary of the behavioral and Developmental Theory approaches to managing classroom behavior. The teacher's ability to manage classroom behavior impacts student achievement.

State and federal laws stipulate that children, to the greatest extent possible, be educated in the least restrictive environment. In most cases, this will be the general education class. There is a need to ensure general as well as special education teachers have the necessary expertise to effectively manage difficult-to-teach children. Educators struggle with students difficult to teach. Likewise, they do not have the strategies and expertise to successfully educate these students (Darling-Hammond, 1997; Kozol, 1991; Lyon, Vassen, & Toomey, 1989; Obiakor & Utley, 1997; Soodak & Poldell, 1994).

The educational accountability movement and legislative initiatives for school safety put pressure on teachers to proactively manage students from diverse backgrounds

(sometimes impoverished and violent households) with different abilities levels in regular classrooms.

Chronic school failure demoralizes children and can initiate a cycle of loss of status and negative responses by peers. This destroys self-esteem, and discourages feelings of competence. As a result, a child's attachment to teachers, parents, school, and the values they promote can be undermined. It also generates hopelessness and helplessness. Children quit believing that their efforts make a difference in outcomes (Brooks, 1994a; Brooks, 1992). For delinquent youth, school is a place of alienation and failure as opposed to attachment and learning (Hawkins, 1995). Academic achievement is not a priority for many demoralized youth.

The typical public school response to at-risk learners tends to be reactive rather than proactive. Specific action is taken only after a child is having serious behavioral problems or his or her attendance becomes significantly impacted. Data based decisions for effective behavior management and staff development are essential tools for effectively managing at-risk student learners in these times of intense accountability and youth violence.

CHAPTER 3

PROCEDURES

This chapter details the procedures used to gather data, analyze data, and test the hypotheses. It is composed of eight sections that include a restatement of the purpose, research design, hypotheses, population and sample, instrumentation, data collection, statistical analysis, and level of significance.

Restatement of the Purpose

The purpose of this study was to determine the impact of an interactive CD-ROM PEGS! program on behavior management for K-1 teachers (experienced and new) on student performance—both behavior and academic—in Title I schools.

Research Design

This study was a research design (treatment and control group) without random assignment (Campbell & Stanley, 1963). Random assignment was not possible because of the need for teachers to volunteer to participate in the Project PEGS! training. Thus, generalizations of the results of this study were limited.

The independent variable for this study was teacher completion of participation of Practice in Effective Guidance Strategies (PEGS!) Program CD-ROM (CD). The dependent variables were as follows: Project PEGS! Observation Sheet; attendance (attendance records for teachers and students), office referrals, and student achievement based on GKAP-R scores for spring of 2002.

Null Hypotheses

The following hypotheses were referenced to each of the research questions stated in chapter 1. The hypotheses were organized in two sets: the first set focused only on those elementary Title 1 teachers who completed Project PEGS! training; and the second set focused on comparisons between those elementary Title 1 teachers who completed the Project PEGS! training and their students (experimental group) to those elementary Title 1 teachers who did not participate in the Project PEGS! training and their students (control group). In these hypotheses the term *teachers* was be used to mean "elementary Title 1 teachers." The unit of analysis was be the teacher/classroom.

Set I

Hypotheses I-1: There was no statistically significant difference between the mean number of Project PEGS! strategies that participants perceived themselves to use prior to the beginning of the training (using the PEGS! Observation Form) and the mean number of Project PEGS! strategies that these same teachers used after the completion of the training.

Hypotheses I-2: There was no statistically significant difference between the mean number of students participating in acceptable ways in the classes of the articipants who were observed by a colleague (using the PEGS! Observation form) prior to the beginning of the training and the mean number of students participating in the acceptable ways in the classes of participants who were observed by the same colleague after the completion of the training.

Hypotheses I-3: There was no statistically significant difference between the mean number of days participants were absent from school during the fall semester

(prior to training) and the mean number of days these same teachers were absent from school during the spring semester (subsequent to the completion of the training).

Hypotheses I-4: There was no statistically significant difference between the mean number of days absent for participants and the mean number of days absent for nonparticipants for school year 2001-2002.

Set II

Hypotheses II-1: There was no statistically significant difference between the mean daily attendance for students taught by experimental teachers (PEGS! participants) and those taught by control teachers (nonparticipants) for fall semester 2001 (prior to training) and the mean daily attendance for these same two groups of students for spring semester 2002 (subsequent to completing training).

Hypotheses II-2: There was no statistically significant difference in the number of office referrals for inappropriate behavior for students taught by experimental teachers (PEGS! participants) and those taught by the control teachers (nonparticipants).

Hypotheses II-3: There was no statistically significant difference between the mean test scores for reading and mathematics on the GKAP-R between participants in PEGS! and nonparticipants in PEGS! for Spring of 2002.

Population and Sample

The sample population included kindergarten teachers and their classes from three public elementary schools located in one northeast Georgia school system during the 2001-2002 school year. All three schools were considered Title I schools. The experimental group of teachers for this study volunteered to pilot the PEGS! program.

The control group consisted of the remainder of kindergarten teachers who did not participate in the program.

Instrumentation

PEGS! is an innovative approach to increasing teaching skills and improving student behaviors through interactive CD-ROM technology. It provides animated simulations of typical classroom situations at the elementary level (ages 6 to 12) requiring teachers to use basic, positive behavior management strategies to increase student class participation and decrease negative behaviors. Adults using the program can choose among four educational activities (physical activity, group discussion, group project, and individual work) and three difficulty levels. Simulations of problem behaviors are viewed and then adult responses to the behaviors of the children are selected. Animated reactions of the students to the choices occur. Feedback about the selected interventions is provided.

PEGS! was a collaborative project between the University of Georgia/Developmental Therapy/Teaching Programs and the Georgia Department of Education (State Improvement Grant). The initial study was conducted in 12 classrooms with 203 students. Results indicated that the instances of student's negative behaviors declined by 55% after a 10-day period when their teachers practiced managing the simulated conditions on the PEGS! CD. As teachers increased their abilities in using positive management skills, they decreased the frequency of ignoring students' problem behaviors. The quality of a teacher's proficiency in using the recommended practices in their classrooms increased 25% during that time. Because PEGS! has been piloted on a

limited basis, research on the documentation of it's effectiveness and under what conditions it is effective are valuable contributions to the field in multiple areas.

Georgia law (O. C. G. A., Section 20-2-151 and 20-2-281) of the A+ Education Reform Act requires that all students enrolled in Georgia public school kindergarten programs be assessed for first-grade readiness with an instrument adopted by the State Board of Education. All kindergarten students participate in Georgia Kindergarten Assessment Program Revision (GKAP-R) without accommodations or exemptions unless specified in an IEP or 504 Plan. All students with disabilities who are considered kindergarten age should participate in the GKAP-R or be provided an alternate assessment. The primary purpose of GKAP-R is to provide cumulative evidence of a student's readiness for first grade, as reflected on kindergarten Georgia Quality Core Curriculum (QCC) content standards measured on GKAP-R assessment activities. GKAP-R is a 32-activity, performance based assessment program continuously administered during the kindergarten year. Student performance is measured in three domains: Literacy (14 activities); mathematics (14 activities); and social/emotional development (4 activities). There are three windows of assessment during the school year. Every student must be allowed up to three opportunities to achieve at the "Accomplished" level on each activity.

GKAP-R activities were field-tested several phases throughout Georgia. Over 200 teachers participated. Data for activities were analyzed by the Georgia Assessment Project (GAP), which was housed at Georgia State University, College of Education. A collection of validated assessment activities was created and reviewed by a selection committee from across the state. Personnel from the Georgia Department of Education

made the official selection of 32 activities for the GKAP-R. The final step in the developmental process was the recommended standards that came from a panel of kindergarten and fist grade teachers. The revision process was completed in 1998 and administered for the first time during the 1998-1999 school year.

Data Collection Procedures

Hall County, in collaboration with Pioneer RESA, piloted PEGS! to assist school personnel in increasing student achievement and decreasing the incidence of negative behavior. Training was provided by Pioneer RESA to insure program fidelity. The course was offered on a volunteer basis to the five elementary schools that receive Title I money. Kindergarten, first grade, and beginning teachers were given priority because the county's interest to providedearly intervention and prevention of student behavior problems.

Teachers participated in five once-a-week sessions of an hour and a half. A minimum of ten hours of computer practice of the PEGS! was also a part of the course requirement. Data were collected from each of the computer sessions to monitor progress in implementing the interventions taught as part of the PEGS! program. The course included a pre/post survey of positive interventions used by the teacher and observations.

The survey was a checklist of interventions that asked the teacher how often (on a scale of 1-5) they used the twelve positive interventions and how well they considered it to work for them (also on a scale of 1-5). The survey was repeated at the end of the course to see if participation in the PEGS! program changed their results.

Two 15 minute pre- and post-observations were completed by a chosen colleague. The first observation was of the level of group participation. The second was of the level

of participation of a student selected by observed teacher. The teacher was asked to choose a student considered difficult to manage. The process was repeated at the beginning and end of the course using the same people.

An analysis was conducted comparing whether there were any significant differences between teachers who participated in PEGS! and those who did not at the same grade level and school in teacher and student attendance, office referrals for inappropriate behavior, and student achievement on the GKAP-R.

Teachers who did not participate in the PEGS! program were given the survey to complete at the beginning of the study then all study participants (PEGS! participants and nonparticipants) completed the survey again at the end of the school year.

The primary investigator conducted two observations on each teacher (PEGS! participants and nonparticipants), one at the beginning and another at the end of the study. The observations were the same ones use in the PEGS! program described above.

Data collected by the school system were utilized to compare attendance records and GKAP-R scores. Student files for office referrals by class were reviewed by the primary investigator at the end of the year. Reliability checks were derived by collecting information from the same student file on two separate occasions. Three to five days separated the collection of data from the same student file between the two occasions. Approximately 5% of the student records by class were used for conducting reliability checks.

Statistical Analysis

Both descriptive and inferential statistical analyses were utilized in this study. Descriptive statistics were used to report the mean, range, standard deviation inferential

statistical analyses were incorporated in this study. T-tests and ANOVA analyses were conducted to assess the role of PEGS! relative to teacher behaviors and classroom behavior management interventions, attendance, student achievement and office referrals. A discussion of the procedures and the rationale for their selection is addressed below.

T-tests were conducted in order to ascertain the significance of the differences between means of the variables for the groups studied. It is adjustable in terms of the number of subjects needed within each group to make comparisons, and it is often used to compare mean differences.

The analysis of variance (ANOVA) was utilized to examine test scores. ANOVA is a statistical technique used to statistically compare means (Huck & Cormier, 1996). The analysis of variance was used to determine if there was a statistically significant difference when comparing kindergarten teachers' class average GCAP-R scores of in the areas of Literacy and Mathematics.

Level of Significance

A .10 level of statistical significance is used for this study, considering the relatively small sample size and the pilot nature of the training**.**

CHAPTER 4

FINDINGS OF THE STUDY

Results

The purpose of this study was to examine the relationships among effective strategies to increase teacher knowledge and skills in behavior management and student performance (both behavioral and academic) in the classroom. Two sets of research questions were considered. The first set asked whether Title I kindergarten teachers who have completed PEGS! training (a) perceive themselves to increase the use of the 12 intervention strategies taught in the Project PEGS!, (b) increase the number of students enthusiastically participating in acceptable ways as defined by the PEGS! Observation form when observed by a colleague, and (c) increase teacher daily attendance.

The second set asked whether there are differences between the Title 1 teachers who completed the PEGS! training and their students and the Title 1 teachers who did not participate in the PEGS! training and their students on the following: (a) attendance of teachers and students, (b) student inappropriate behavior that resulted in teacher office referrals, and (c) student achievement on state/local mandated tests.

The participants (experimental group) included 6 kindergarten teachers and their classes from three Title I elementary schools during the 2001-2002 school year. They volunteered to pilot the PEGS! program. The nonparticipants (control group) consisted of the remainder of kindergarten teachers at the same schools who did not participate in the program. The participants consisted of 5 females and 1 male; all were Caucasian.

The male had 25 years of experience, was the only one with a T5 certificate, and was qualified to teach kindergarten through eighth grade. He had a class of 15 students. The females' years of experience ranged from 2 to 6 and held a T4 certificate. The female teachers' class size ranged from 15-17 with the exception of one, who had a class of 23 students. All but one were qualified to teach kindergarten through fifth grade. The exception could teach through eighth. All 6 participants had a paraprofessional assistant in the class.

Of the three Title 1 schools, two were on Governor Barnes's list of low performing schools for the 2001 school year. This means that 70% of the students were not meeting the Georgia standards on a Criterion-Referenced Competency Test. Both schools had a score of 78 (the 78 or above score refers to the maximum percentage, meaning greater than 70%, not meeting the Georgia standards on any CRCT by group, in this case the group being Limited English Proficient). According to Georgia's Office of Educational Accountability, the low performing students were in special education and/or Limited English Proficient.

In two of the schools (Schools 2 and 3), over half of the kindergarten populations were Hispanic. The remaining school (School 1) kindergarten classes were predominantly White. None of the participants' students observed or GKAP-R scores considered in this study were receiving special education services other than speech.

This chapter explains the results of the statistical analyses performed to answer the research questions. The chapter is organized into the following sections: PEGS! Strategies, Student Participation, Attendance, Teacher Office Referrals, Student Achievement, and Post Hoc Findings.

PEGS! Strategies

PEGS! is an interactive CD-ROM program that teaches classroom behavior management skills. Through animated simulations of typical elementary classroom situations requiring the use of 12 positive behavior management strategies teachers are taught to increase student class participation and decrease negative behaviors. The 12 positive behavioral intervention strategies taught in PEGS! include:

1. encourage and praise
2. motivate student with materials or activities
3. organize materials for the student
4. provide clear expectations (structure)
5. remind student of rules
6. move close to student (proximity)
7. redirect student activity
8. reflect student's positive words and actions
9. interpret student's words and actions
10. confront unacceptable behavior and/or reprimand
11. time-out in room
12. remove from room

According to PEGS!, a strategy works well if it decreases a student's problem behavior and increases the student's participation. Strategies 1-5 anticipate and avoid problems. Strategies 6-9 prevent the escalation of problems, while strategies 10-12 control disruptive behavior.

Table 4 reports the ranges, means, and standard deviations for the participants for the 12 strategies at three different intervals. Each participant rated herself or himself on the frequency of use and effectiveness of each of the 12 strategies prior to PEGS! training (PRE), at the end of sessions (MID), and again at the end of the school year (POST).

The t-test analysis for each strategy at the three intervals is presented in Table 5 for comparison of pre-training to mid-training, pre-training to post-training, and mid-training to post-training. The range of means indicated major impact occurred at the midpoint and was maintained at post-training. The standard deviation was close. Significance at the .05 level was found for strategy 10 (confronting unacceptable behavior) at the pre-training and mid-training levels. This indicated that participants were required to use less reprimands after the training and this perception still held at the end of the school year. When reviewing the final summary sheets, all 6 participants perceived themselves to use strategies 1-5 (anticipate and avoid problems) and strategies 6-9 (prevent the escalation of problems) more frequently and with more effectiveness than prior to training. This lead some to believe that confrontation (Strategy 10) was not required as often. Though Strategy 10 was the only one found to be significantly different, the teacher's perception of their use of the PEGS! strategies did increase.

Student Participation

The training for PEGS! included observations of student class participation by colleagues. The colleague observed the participant's class for fifteen minutes and at five minute intervals count the number of students using negative words or actions and not participating, the number of students who were quiet but not participating, the number of

Table 4

Ranges, Means, and Standard Deviations for the Teacher Perception of Use for Each of 12 PEGS! Strategies

		PRE Sept.		MID Mar.		POST May	
Strategy	Range	Mean	SD	Mean	SD	Mean	SD
Anticipate and avoid							
PEGS! 1	4-5	4.67	0.52	5	0	4.83	0.41
PEGS! 2	2-5	3.67	1.21	4.67	0.52	4.5	0.84
PEGS! 3	2-5	3.67	1.03	4.5	0.55	4.67	0.52
PEGS! 4	4-5	4.17	0.41	4.67	0.52	4.5	0.55
PEGS! 5	3-5	4	0.63	3.83	1.17	3.67	1.03
Prevent escalating behaviors							
PEGS! 6	4-	4	0	3.83	0.75	3.83	0.75
PEGS! 7	3-4	3.83	0.41	4.17	0.75	4.17	0.41
PEGS! 8	3-4	3.83	0.41	4.17	0.75	4.17	0.75
PEGS! 9	2-4	3.17	0.75	3.5	0.55	4.17	1.17
Prevent escalating behaviors							
PEGS! 10	3-5	4	0.89	4	0.89	3	0.63
PEGS! 11	2-4	2.5	0.84	2.17	1.17	2.33	0.82
PEGS! 12	1-3	1.83	0.75	1.33	0.52	1.5	0.55

Table 5

T-test Analyses for Each of 12 PEGS! Strategies

	PRE-MID Sept. X March		PRE-POST Sept. X May		MID-POST March X May	
Strategy	t	p	t	p	t	p
Anticipate and avoid						
PEGS! 1	-1.58	0.18	-1	0.36	1	0.36
PEGS! 2	-2.24	0.08	-1.88	0.09	1	0.36
PEGS! 3	-2.08	0.09	1.73	0.14	-0.54	0.61
PEGS! 4	-2.24	0.08	-1	0.36	0.54	0.61
PEGS! 5	0.31	0.77	0.6	0.58	0.24	0.82
Prevent escalation of problems						
PEGS! 6	0.54	0.61	0.54	0.61	{}	{}
PEGS! 7	0.1	0.36	0.58	0.18	0	1
PEGS! 8	0.1	0.36	-1	0.36	0	1
PEGS! 9	0.79	0.47	-1.73	0.14	-2	0.1
Control disruptive behavior						
PEGS! 10	2.74	*0.04	2.74	*0.04	{}	{}
PEGS! 11	0.67	0.53	0.54	0.61	-0.31	0.77
PEGS! 12	2.24	0.08	1.58	0.18	-1	0.36

{} could not compute t because standard error of the difference is 0. *p < .05.

students using negative words or actions but were participating, and the number of students participating with acceptable behavior. PEGS! participants were observed three times, once prior to training (September), again after training (November), and a last time in May. Nonparticipants were observed in November and May. Tables 6 and 7 contain the descriptive and inferential statistics associated with student participation.

Student participation by PEGS! participants showed significance ($p < .01$) when comparing pre-training observations to those in May. Post-training observations compared to those in May did not show similar significance. Nonparticipants had a t-value of –1.43 on the comparison of November to May observations. Though not significant, it indicated that enthusiastic student participation decreased.

Table 6

Means and Standard Deviations for the Percent of Students Participating in Acceptable Ways in Class When Observed by a Colleague Using the PEGS! Observation Form in September, November, and May

	Participants only		Nonparticipants only	
Month	Mean	SD	Mean	SD
September	0.47	0.49	N/A	N/A
November	0.42	0.02	0.43	0.14
May	0.4	0.05	0.46	0.13

Note. N/A = not applicable

Table 7

Paired Sample t-test Analyses for the Percent of Students Participating in Acceptable Ways Class When Observed by a Colleague Using the PEGS! Observation Form in September, November, and May

	Participants only			Nonparticipants only		
Months	df	t	p	df	t	p
September X November	5	2.65	0.05			
September X May	5	4.67	*0.01			
November X May	5	3.26	0.76		-1.43	0.17

*p < .05.

Attendance

Descriptive and inferential statistics for the impact of PEGS! on student and teacher attendance is described in Tables 8-13. No significance was found for PEGS! participation prior to or after training for participants. No significance was found when compared to nonparticipants, nor was significance found in student average daily attendance.

Teacher Office Referrals

Teacher office referrals for kindergarten teachers during fall and spring semester and for the year are documented in Tables 14 and 15. No significance was found.

Table 8

Means and Standard Deviations of the Number of Days Participants Were Absent in Fall and Spring Semester

	Mean	S D
Before PEGS!	0.83	1.17
After PEGS!	0.33	0.52

Note. Each semester is approximately 4.5 months.

Table 9

T-test Analyses for Number of Days Participants Were Absent in Fall and Spring Semester

	df	F	p
Fall X spring	1	3.77	0.11

df (1), F = 3.77, p = .11

Table 10

Means and Standard Deviations for the Number of Days Absent for School Year 2002

	Mean	SD
Participants	7.8	0.52
Nonparticipants	3.42	1.03

Table 11

Analysis of Variance for Number of Days Absent for School Year 2002

	df	F	p
Participants	1	5.19	0.03
Nonparticipants	20		

df (1,20), F = 5.19, p = 0.03

Table 12

Means and Standard Deviations for the Mean Daily Absences for Students in Fall Semester and Spring Semester for School Year 2002

	Participants		Nonparticipants	
	Mean	SD	Mean	SD
Fall	-15.5	2.78	-16.19	2.58
Spring	-16.78	2.31	-17.18	2.53

Table 13

Analysis of Variance for the Mean Daily Absences for Students in Fall Semester and Spring Semester for School Year 2002

	Fall			Spring		
	df	F	p	df	F	p
Participant X nonparticipant	1.2	0.3	0.59	1,20	0.12	0.74

df (1,20). F = 3, p = .59

df (1,20), F = .12, p = .74

Table 14

Means and Standard Deviations for the Number of Office Referrals for Inappropriate Behavior for Students for School Year 2002

	Participants		Nonparticipants	
	Mean	SD	Mean	SD
Fall	0.5	0.84	0.81	2.48
Spring	0	0	0.31	0.6
Year	0.5	0.84	1.3	2.96

Table 15

Analysis of Variance for Number of Office Referrals for Inappropriate Behavior for Students for School Year 2002

Participants X nonparticipants		df	F	p
	Fall	1, 20	0.09	0.77
	Spring	1, 20	1.57	0.22
	Year	1, 20	0.25	0.62

Student Achievement

GKAP-R achievement in reading (called literacy on GKAP-R) and mathematics was compared between PEGS! participants and nonparticipants. There are 14 performance indicators for both reading and math that students that are listed in Appendix 1. Students achieved a rating of NE (not evident), IP (in progress), or AC (accomplished) based upon their performance in each area. Descriptive and inferential statistics for student achievement are in Tables 16-20. "Responds to literal, inferential, and evaluative questions" (L7: in progress, and accomplished) and "Uses words indicating physical relationships (M4: accomplished)" indicated significance or near significance ($p < .05$).

Post Hoc Findings

Some of the most interesting findings occurred with the subjects that could not be used in the study. Two beginning teachers were asked to attend the training by their school assistant principal. Both were beginning teachers with two years teaching experience (school year 2002 be the second year of teaching). The participant taught first grade and the nonparticipant (who began the PEGS! Program but dropped out after two sessions) taught third.

At both the March and May observations, the participant had nearly or more than half of her class participating in classroom activities appropriately whereas the nonparticipant had less than 16% of her class participating in classroom activities appropriately. Furthermore, the participant improved in the above mentioned observation from March (42.22%) to May (86.18%) whereas the nonparticipant's percentage of students appropriately participating in class became worse during these same times

Table 16

GKAP-R Skills

Reading (Literacy) Activities	
L1	Prints name
L2	Holds print materials in correct position
L3	Draws pictures and/or uses letters and phonetically spelled words to write about experiences/people/things
L4	Identifies upper- and lower- case letters out of sequence
L5	Blends sounds orally to make words (Parts1-2)
L6	Distinguishes between letters, words, and sentences
L7	Responds to literal, inferential, & evaluative questions
L8	Sequences pictures to tell a story/interprets pictures to predict logical outcomes
L9	Recognizes rhyming words
L10	Verbalizes consonant sounds when shown letter
L11	Associates sounds with letters
L12	Blends sounds orally to make words (Parts 3)
L13	Reads selected sight words
L14	Copies letters
Mathematics Activities	
M1	Counts by rote, 0 to 10
M2	Recognizes and selects the numerals for 0-10
M3	Identifies 6 basic geometric shapes
M4	Uses words indicating physical relationships
M5	Sorts geometric shapes
M6	Continues simple patterns
M7	Uses words indicating physical relationships
M8	Determines equivalence using physical relationships
M9	Compares and describes lenghs
M10	Counts the elements in a set and writes numeral
M11	Constructs/interprets simple graphs using objects/pictures
M12	Names couns and dollar bill
M13	Uses ordinal number to indicate first through fifth
M14	Models, acts out uses pictures to solve simple problems

Table 17

Means and Standard Deviations for Mean Test Scores for Reading on the GKAP-R, Spring 2002

		Participants		Nonparticipants	
		Means	SD	Means	SD
L1	NE	0	0	0	0
	IP	4.67	4.5	14.75	18.54
	AC	95.33	4.5	85.25	18.54
L2	NE	1	2.45	0	0
	IP	1.67	2.66	1.19	2.61
	AC	97.33	3.01	98.81	2.61
L3	NE	1	2.45	0.81	3.25
	IP	24.83	15.34	30.06	19.96
	AC	74.17	17.58	69.19	20.73
L4	NE	1.67	2.66	2	3.12
	IP	22.5	9.77	23.38	17.62
	AC	75.5	10.01	74.74	17.18
L5	NE	3	5.02	1.31	2.85
	IP	6.67	3.98	6.69	8.87
	AC	90.33	7.12	92	9.97
L6	NE	3.67	2.94	1.25	2.72
	IP	3.67	2.94	5.13	6.53
	AC	92.5	5.92	93.62	8.3
L7	NE	3.67	4.8	1.81	3.29
	IP	16.5	9.73	7.25	7.49
	AC	79.83	10.61	91	6.69
L8	NE	5.5	4.81	3.94	6.86
	IP	15	12.85	9.88	13.31
	AC	79.5	11.64	86.25	13.3
L9	NE	9	8.15	6.62	6.97
	IP	23.67	12.29	23.88	14.28
	AC	67.67	11.62	69.63	16.62
L10	NE	9.5	9.75	3.63	4.75
	IP	15.83	11.41	19.31	14.78
	AC	74.83	12.83	77.13	14.5
L11	NE	2.67	3.01	0.75	2.05
	IP	6.33	4.13	8.88	8.37
	AC	91	5.93	90.38	8.94
L12	NE	21.17	21.38	30.69	19.68
	IP	30.5	14.92	20.81	19.01
	AC	48.5	17.34	48.44	22.13
L13	NE	10.67	7.26	12.88	13.31
	IP	15	15.13	18	10.41
	AC	74.67	18.51	69.25	12.67
L14	NE	0	0	0.44	1.75
	IP	5.83	3.92	14.44	20.85
	AC	94.17	3.92	85.19	20.77

Note. NE = skill is not evident; IP = skill is in progress; AC = skill has been achieved.

Table 18

Means and Standard Deviations for Mean Test Scores for Mathematics on the GKAP-R, Spring 2002

		Participants		Nonparticipants	
		Means	SD	Means	SD
M1	NE	0	0	0	0
	IP	1	2.45	0	0
	AC	99	2.45	100	0
M2	NE	3.67	2.94	2.13	4.57
	IP	3.17	3.49	2.81	4.07
	AC	93.17	2.71	95.06	5.43
M3	NE	1.67	2.66	0.88	2.42
	IP	13	12.74	9.44	8.37
	AC	85.33	13.32	89.62	8.84
M4	NE	2	3.1	3.67	2.94
	IP	14.17	7.08	7.19	7.53
	AC	84	7.64	92.25	7.92
M5	NE	0.5	2	1.44	4.41
	IP	13.17	20.6	13.25	18.86
	AC	83.17	19.31	85.31	20.16
M6	NE	1	2.45	0.5	2
	IP	1.5	3.67	2.5	5.88
	AC	97.5	3.99	97.06	5.88
M7	NE	3	5.02	1.44	4.41
	IP	27.33	18.39	19.31	15.56
	AC	70	20.45	79.31	16.68
M8	NE	3.5	3.99	2.31	5.3
	IP	11	11.76	9.63	9.85
	AC	85.67	14.32	88.25	13.45
M9	NE	3.5	3.99	0.5	2
	IP	8	5.83	6.31	8.81
	AC	88.5	8.53	93.25	10.04
M10	NE	1	2.45	2	3.12
	IP	4.67	3.78	3.81	6.19
	AC	94.33	3.01	94.19	8.07
M11	NE	2	3.1	2.81	9.54
	IP	14.83	19.35	8.56	15.88
	AC	83.33	19.12	88.69	17.95
M12	NE	3.5	3.99	1.63	2.92
	IP	4.83	6.65	11.69	10.55
	AC	91.67	10.46	86.75	11.76
M13	NE	6.5	6.69	5.12	8.07
	IP	16.5	11.54	15	14.16
	AC	77.17	13.2	79.94	17.1
M14	NE	2.67	3.01	1.63	4.95
	IP	4.33	10.61	6.5	13.3
	AC	93	11.64	91.94	14.14

Note. NE = skill is not evident; IP = skill is in progress; AC = skill has been achieved.

Table 19

Analyses of Variance of Mean Test Scores for Reading on the GKAP-R, Spring 2002

Source			df	F	p
L1	NE	Participants X nonparticipants	1,20		
	IP		1,20	1.69	0.21
	AC		1,20	1.68	0.21
L2	NE			2.91	0.10
	IP			0.15	0.71
	AC			1.29	0.27
L3	NE			0.02	0.90
	IP			0.33	0.57
	AC			0.27	0.61
L4	NE			0.05	0.82
	IP			0.01	0.91
	AC			0.01	0.92
L5	NE			1.00	0.33
	IP			0.00	1.00
	AC			0.14	0.71
L6	NE			3.30	0.08
	IP			0.27	0.61
	AC			0.09	0.77
L7	NE			1.08	0.31
	IP			5.68	0.01*
	AC			8.81	0.01*
L8	NE			0.26	0.62
	IP			0.66	0.43
	AC			1.19	0.29
L9	NE			0.47	0.50
	IP			0.00	0.98
	AC			0.07	0.80
L10	NE			3.70	0.07
	IP			0.27	0.61
	AC			0.12	0.74
L11	NE			2.96	0.10
	IP			0.50	0.49
	AC			0.03	0.88
L12	NE			0.98	0.34
	IP			1.25	0.28
	AC			0.00	1.00
L13	NE			0.15	0.71
	IP			0.28	0.60
	AC			0.62	0.44
L14	NE			0.36	0.55
	IP			0.98	0.33
	AC			1.08	0.31

* = $p \leq .05$.

Table 20

Analyses of Variance for Mean Test Scores for Mathematics on the GKAP-R, Spring 2002

Source			df	F	p
M1	NE	Participants x nonparticipants	1,20	0.00	NA
	IP			2.91	0.10
	AC		1,20	2.91	0.10
M2	NE			0.30	0.59
	IP			0.04	0.85
	AC			0.65	0.43
M3	NE			0.75	0.40
	IP			0.59	0.45
	AC			0.78	0.39
M4	NE			5.09	0.04*
	IP			3.86	0.06
	AC			4.82	0.04*
M5	NE			0.00	0.96
	IP			0.00	0.99
	AC			0.05	0.83
M6	NE			0.78	0.39
	IP			0.15	0.70
	AC			0.28	0.87
M7	NE			0.87	0.36
	IP			1.055	0.32
	AC			1.21	0.29
M8	NE			0.03	0.87
	IP			0.08	0.78
	AC			0.16	0.70
M9	NE			11.03	0.00
	IP			0.19	0.67
	AC			1.05	0.32
M10	NE			2.67	0.12
	IP			0.01	0.76
	AC			0.00	0.97
M11	NE			0.45	0.51
	IP			0.61	0.45
	AC			0.37	0.54
M12	NE			2.55	0.13
	IP			2.17	0.16
	AC			0.81	0.38
M13	NE			0.64	0.43
	IP			0.05	0.82
	AC			0.13	0.73
M14	NE			0.01	0.92
	IP			0.13	0.73
	AC			0.03	0.87

*$p \leq .05$.

(61.11% in March and 37.25% in May). Upon further investigation, it was found that the participant had fewer students who were quiet but not participating in class at both observations and again, the participant's percentage decreased from March to May while the nonparticipant's number increased (see Table 21).

Table 21

Post Hoc Data of Beginning Teachers Not Included in the Study

	March	May
Percentage of Students Participating in Class		
Participant	42.22	87.18
Nonparticipant	61.11	37.25
Percentage of Students Quiet but Not Participating in Class		
Participant	15.56	12.82
Nonparticipant	19.44	45.1

When the researcher analyzed the types and frequencies of the PEGS! strategies used, both used only six of nine strategies to anticipate/avoid and/or prevent inappropriate behaviors. The main difference was that of the strategies that were used, the participant used them much more often. Both of the beginning teachers did not use Strategies 3, 8, and 9 (organize materials for student; reflect student's positive words/actions; interpret student's words/actions). Table 22 summarizes the findings of the research project.

Table 22

Summary of Findings

Hypotheses	Significant yes/no	Participant vs. nonparticipant <, =, >
There is no statistically significant difference between the:		
I-1: mean number of Project PEGS! strategies that participants perceived themselves to use prior to the beginning of the training (using the PEGS! Observation Form) and the mean number of Project PGGS! Strategies that these same teachers used after the completion of training.	Yes No	PEGS! strategy 10, participants PEGS! strategies 1-9, 11-12, nonparticipants
I-2: mean number of students participating in acceptable ways in the classes of the participants who were observed by a colleague prior to the beginning of the training and mean number of students participating in acceptable ways in the classes of participants who were observed by the same colleague after completion of training.	Yes	Participants
I-3: There is no statistically significant difference between the mean number of days participants were absent from school fall semester (prior to training) and the mean number of days these same teachers were absent from school spring semester (subsequent to the completion of the training).	No	N/A
I-4: There is no statistically significant difference between the mean number of days absent for participants and the and the mean number of days absent for nonparticipants for school year 2001-2002.	No	N/A
II-1: There is no statistically significant difference between the mean daily attendance for students taught by experimental teachers (PEGS! participants) and those taught by control teachers (nonparticipants) for fall semester 2001 (prior to training) and the mean daily attendance for these same two groups of students for spring semester 2002 (subsequent to completing training).	No	N/A
II-2: There is no statistically significant difference in the number of office referrals for inappropriate behavior for students taught by experimental teachers (PEGS! participants) and those taught by the control teachers (nonparticipants).	No	N/A
II-3: There is no statistically significant difference between the mean test scores for reading and mathematics on the GKAP-R between participants in PEGS! and nonparticipants in PEGS! for spring semester 2002.	No	N/A

Note. N/A = not applicable.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Chapter 5 is divided into three sections. Section one presents a general summary of the study and how it was conducted. Section two presents a review of the findings based on the research questions. Section three discusses the limitations of the study; and the final section discusses areas for further research based on issues which have arisen during the course of the study.

Summary

The problem for this study was to examine the relationships among effective strategies to increase teacher knowledge skills in behavior management and student performance (both behavioral and academic) in the classroom**.**

The purpose of this study was to determine the impact of an interactive CD ROM program, Project PEGS!, on behavior management for kindergarten teachers (experienced and new) on student performance (both behavior and academic) in Title I schools in a moderate size school system.

Two sets of research questions focused this study. The first set focused on those teachers who completed the PEGS! training and their students. The second set focused on comparisons between those teachers who completed PEGS! training and their students and those teachers who did not participate in the PEGS! training and their students.

Set I

The first set of questions asked: Do Title I elementary teachers who completed PEGS! training:

1. perceive themselves to increase the use of the 12 interventions taught in the Project PEGS!?
2. increase the number of students participating in acceptable ways as defined by the PEGS! Observation form when observed by a colleague?
3. increase teacher daily attendance?

Set II

The second set of questions asked: Are there differences between the Title 1 teachers who completed the PEGS! training and their students and the Title 1 teachers who did not participate in the PEGS! training and their students on the following:

1. attendance of teachers and students?
2. student inappropriate behavior that resulted in teacher office referrals?
3. student achievement on state/local mandated tests?

Hall County piloted PEGS! in collaboration with Pioneer RESA. Training was provided by Pioneer RESA to insure program fidelity. The course was offered on a volunteer basis to the five elementary schools that receive Title I money. Kindergarten, first grade, and beginning teachers were given priority.

Teachers participated in five once-a-week sessions of an hour and a half. A minimum of ten hours of computer practice of the PEGS! was also a part of the course requirement. Data was collected from each of the computer sessions to monitor progress in implementing the interventions taught as part of the PEGS! program. The course

included a pre- and post-survey of positive interventions used by the teacher and observations.

The survey was a checklist of interventions that asked the teacher how often (on a scale of 1-5) they used the twelve positive interventions and how well they considered it to work for them (also on a scale of 1-5). The survey was repeated at the end of the course to see if participation in the PEGS! program changed their results.

Two pre- and post-observations of 15 minutes each were done by a chosen colleague. The first observation was of the level of group participation. The second was of the level of participation of a student selected by observed teacher. The teacher was asked to choose a student considered difficult to manage. The process was repeated at the beginning and end of the course using the same people.

Teachers who did not participate in the PEGS! program were given the survey to complete at the beginning of the study then all study participants (PEGS! participants and nonparticipants) completed the survey again at the end of the school year.

The primary investigator conducted two observations on each teacher (PEGS! participants and nonparticipants), one at the beginning and another at the end of the study. The observations were the same ones use in the PEGS! program described above.

Data collected by the school system was utilized to compare attendance records and GKAP-R scores. Student files for office referrals by class were reviewed by the primary investigator at the end of the year.

Review of Findings

This section contains conclusions based on the analysis of the data regarding the research questions presented in chapter 1. There were few differences between the

participants and nonparticipants. Overall, PEGS! had little effect with experienced teachers.

A significant difference ($p < .05$) was found on strategy 10. Strategy 10 was confront unacceptable behavior and/or reprimand. Numerous participants stated during training sessions that as they became better at the first nine strategies, confrontation and reprimands were needed less often. There was no significant difference found on participants' self-perception of use of PEGS! strategies 1-9 and 11-12. Also of note is that Strategies 11 and 12, time-out in room and remove from room, were not used often by kindergarten teachers in general, so little change would be expected.

A significant difference ($t = 4.67$, $p = 0.01$) was found in the mean number of students participating in acceptable ways in participants' classes when comparing observations prior to PEGS! training and after the completion of training. Significance was found again when observed in May. Nonparticipants, in contrast, had a negative score ($t = -1.43$, $p = 0.17$) indicating that students had decreased in participation in acceptable ways rather than increased.

No significant difference was found in the area of attendance. This included the attendance of participants prior to compared to after PEGS! training, the number of days participants and nonparticipants were absent for the year, and the average daily attendance of students in both participants' and nonparticipants' classes.

No significant difference was found in the number of office referrals between participants and nonparticipants. When reviewing student office referrals records, only four kindergarteners total from the three schools were sent to the office during the 2002 school year. Two students from one school had been sent multiple times but none of

them were in the classes of the participants. All principals reported that they dealt with few discipline incidents with kindergarteners.

The final question looked at GKAP-R dissimilarities. For the most part, no significance was found between participants and nonparticipants. "Responds to literal, inferential, and evaluative questions" (L7: in progress, and accomplished) and "Uses words indicating physical relationships (M4: accomplished)" indicated significance or near significance, $p < .05$, but not at $p = .01$. One possible explanation for the lack of significance could be because 97% of School 1, 87% of School 2, and 95% of School 3 kindergarteners demonstrated readiness for first grade. With assistance, 99% of School 1, 99% of School 2, and 98% of School 3 achieved a readiness for first grade score indicating that there were little differences between the groups.

Limitations of the Study

There are limitations regarding the generalizability of the results. Those involve the nature of the study population, and the sample size. Readers of this chapter should hold interpretations and implications to the schools that participated in the research project.

Population

The characteristics of the population of teachers and students are a limitation. Being Title I schools with significant populations of LEP students (predominantly Hispanic) limit generalizing to dissimilar populations.

Perhaps the most impacting limitation was that the participants were limited those who volunteered. Several nonparticipants remarked that they simply did not have time to do extra training, though they were very interested in the program. The school system

had recently adopted new elementary reading and writing programs that required much additional staff development. The participants who did volunteer were primarily experienced, kindergarten teachers. Preservice and/or beginning teachers of grades two through five would most likely yield different results. Inexperienced teachers tend to have more issues with classroom behavior management than experienced educators. Older elementary students are usually expected to conform to more stringent behavioral expectations and function at a more abstract level than younger students which often leads to more behavioral issues. The Post Hoc findings (with the sample size of two) supports this notion.

Sample Size

The data collected for this study were obtained from three Title I elementary schools where the school system was piloting the PEGS! program. The grade level that had the most volunteers was kindergarten and there were only six. Because the school system was testing a new staff development approach using computer practice coupled with face-to face instruction, the nonparticipating kindergarten teachers were able to be observed and checklists completed.

Areas of Future Research

This research project has contributed to the volume of knowledge regarding teacher preparation and early intervention for students at risk. Areas for further research include the effectiveness of PEGS! with preservice and beginning teachers, paraprofessionals, and parents. Experienced teachers have typically developed a repertoire of strategies for dealing with inappropriate student behaviors. PEGS! did have a positive impact on improving appropriate class participation and a decrease in

confrontation of inappropriate behavior with experienced teachers but previous research by Wood and Wahlers (2001) and the post hoc findings of this study indicate those with less teaching experience may benefit the more from this program.

As schools continue to encourage parent involvement in schools, PEGS! offers a nontraditional approach to assisting parents who may benefit from or want more training on disciplining. The effectiveness of this type of training medium and under what conditions is an opportunity for further research.

Even though early intervention for at risk behavior has been found to be important in prevention of violence, the kindergarteners in this sample rarely required interventions for inappropriate behaviors outside the classroom. Kindergarten classes typically are organized with the developmental needs of active young learners who have a wide range of developmental skill levels. As children progress in school, the expectation is for them to be more independent learners who can cope in a much more structured and faster paced learning environment. Studying the teachers of first through fifth grade and their classes may offer more insights into the effectiveness of PEGS! in the areas of office referrals for inappropriate behavior and student achievement.

There is a lack of research supporting long-range outcomes of programs to prevent inappropriate school behaviors and violence . Much of what is known is based on limited samples of children and teachers with little data on the effectiveness of programs and interventions across cultural/ethnic groups. As more research is done, it adds to the body of knowledge what treatment works best at what ages and with which ethnic and social groups (Goldstein & Conoley, 1997).

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