

University of Nevada, Reno

Positive Behavior Support CIPP Evaluation

A dissertation submitted in partial fulfillment of the requirements for the degree of
Doctor of Philosophy in Education

by

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ABSTRACT

This study used a CIPP evaluation approach to investigate the implementations and impacts of School-Wide Positive Behavior Support (SWPBS) implementation in four elementary schools. This evaluation answered the following questions:

Context:

1. Why did the school implement SWPBS?
2. What student behavior problems were present at the beginning of the study?
3. What were the levels of student behavior problems within each school the year prior to SWPBS implementation?

Input:

4. What training was provided to the staff at each school?
5. What resources (financial and human) were provided to each school?

Process:

6. What was level of fidelity of implementation of SWPBS?
7. How did the school implement SWPBS?

Product

8. Did student behaviors change after implementation of SWPBS?
9. Did student academic achievement change after implementation of SWPBS?

In the short history of SWPBS several studies have examined the implementation and outcomes of the program. Several studies found a positive relationship between the level of implementation and reduction of student problem behaviors. Some early research found that correlations between implementation of SWPBS and increased

academic achievement on statewide or district-wide assessments.

This evaluation study employed a mixed methods approach to gather data on the implementation fidelity of SWPBS, student behavior data and student achievement data to answer each of the nine evaluation questions. Qualitative data included interviews with three or four staff members at each school. Quantitative data included SWPBS implementation fidelity instrument (BoQ and SET) outcomes, office discipline referrals, and student pass rate percentages at each school in the 3rd and 5th grades for both ELA and math state assessments.

The findings of this evaluation are consistent with other SWPBS studies. Specifically, results indicated that schools that implemented SWPBS with fidelity had improvements in school climate and reductions in problem student behaviors. Data indicated that schools which implemented SWPBS with fidelity had increases in academic achievement as measured by ELA and math state assessments.

Consistent with current literature, this evaluation found that school staffs need buy-in and support from an administrator who will serve as a champion of implementation to facilitate successful change. In schools that implemented SWPBS with fidelity, student behaviors and student achievement improved. Finally, within this study, the data suggests that schools which implemented with fidelity may be positioned to facilitate second-order changes.

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CHAPTER ONE

INTRODUCTION

The 2006 Rose and Gallup poll revealed that both the American public; as well as educators consider school discipline a major concern. Consistent with the Gallup Poll, Walker, Ramsey, & Gresham (2005) reported that students' problem behaviors disrupt learning in schools. Educators throughout the United States are taking measures in attempts to improve student behaviors with the goal of increased academic achievement. School-wide Positive Behavior Support (SWPBS) is a sustained whole-school approach designed to reduce student problem behaviors and applications are rapidly increasing (Sugai & Horner, 2006).

School-wide Positive Behavior Support is designed to minimize problem behaviors within a whole school context. The program stems from behavioral science, biomedical science, and systems change theory (Horner & Sugai, 2005; Sugai et al., 2000). School-wide Positive Behavior Support is an expansion of positive behavior support (PBS) to the whole school context. Early research has indicated that SWPBS has had success in reducing student problem behaviors in schools.

By design, SWPBS is implemented within a three-tiered model of service delivery, in which the intensity of intervention increases in relationship to student needs. In a typical school setting, Tier 1 or universal intervention includes all students and these interventions are designed to be sufficient for approximately 80% of students. Tier 2 provides more intensive interventions for students identified as needing additional support. These interventions are designed to be successful for about the next 15% of

students. Tier 3 provides the most intensive interventions for students who do not respond to Tier 1 or Tier 2 interventions. This applies to typically about 5% of all students (Sugai & Horner, 2002). School-wide Positive Behavior Support “is guided by three main tenets: (a) prevention, (b) theoretically sound and evidence-based practice, and (c) systems implementation” (Sugai & Horner, 2006, p. 246).

Many students across the United States fail to meet established academic standards. Student problem behaviors reduce engaged learning time. This reduced learning time decreases the opportunity for students to meet academic standards (Curry, 1984; Nystrand & Gamoran, 1989). A relatively recent, systems based, potential solution for reducing student problem behaviors is the implementation of SWPBS (Sugai & Horner, 2002). Researchers suggest that the implementation of SWPBS reduces the incidents of student problem behaviors and may be useful in improving student academic achievement (Putnam, Horner & Algozzine, 2006).

Problem Statement

The current educational environment requires effective classroom management and corresponding data based decision making; however, research on SWPBS is limited. Many programs have been implemented without sufficient controls or appropriate evaluations to determine the degree of fidelity to the original theoretical structure. Other programs are implemented without common understanding of expectations or outcomes (Evans, 2010). With specific reference to SWPBS, research exists; however, much of the research and program evaluations lack information on the fidelity of implementation (Horner et al., 2010), as well as limited demographic information provided on the participating schools (Lane et al., 2006). In addition to implementation fidelity data,

school administrators need to develop an understanding of potential impacts of SWPBS. Further evaluation research is needed to determine if changes in student behaviors and academic achievement have occurred after implementation of SWPBS within selected elementary schools while considering the fidelity of implementation.

Purpose Statement

Patton (1986) defined program evaluation as “the systematic collection of information about the activities, characteristics, and outcome of programmes for use by specific people to reduce uncertainties, improve effectiveness, and make decisions with regard to what those programmes are doing and affecting” (p. 14). Stufflebeam (2003) indicated that the purpose of evaluation was to:

- Establish and provide useful information for judging decision alternatives;
- Assist an audience to judge and improve the worth of some educational program or object;
- Assist the improvement of policies and programmes.

The purpose of this evaluation was to examine the implementation and impacts of the SWPBS system when implemented in four elementary schools.

The evaluation of a program can only be valid if the level of fidelity of implementation of the program is considered. Without considering implementation fidelity of SWPBS, outcome measures are meaningless in determining the worth of the implementation. Therefore, evaluation included an analysis of the fidelity of implementation. Analysis of the fidelity of implementation of SWPBS, student behaviors, and achievement provides useful information for both researchers and education practitioners. The CIPP Evaluation Model is a comprehensive model for guiding program

evaluations aimed at effecting long-term, sustainable and program improvement as well as for judging the merit and worth of a program (Green & McClintock, 1991; Stufflebeam, 2003).

Evaluation Questions

The study addressed the four areas of context, input, process, and product (CIPP) as proposed by Stufflebeam (2003). The plan and scope of this evaluation was designed to be consistent with the School-wide Positive Behavior Support Evaluation Template (Horner, Sugai, & Lewis-Palmer, 2005). This evaluation answered the following questions:

Context:

1. Why did the school implement SWPBS?
2. What student behavior problems were present at the beginning of the study?
3. What were the levels of student behavior problems within each school the year prior to SWPBS implementation?

Input:

4. What training was provided to the staff at each school?
5. What resources (financial and human) were provided to each school?

Process:

6. What was level of fidelity of implementation of SWPBS?
7. How did the school implement SWPBS?

Product

8. Did student behaviors change after implementation of SWPBS?
9. Did student academic achievement change after implementation of SWPBS?

This evaluation examined these questions using the CIPP Evaluation Model, including several established implementation evaluation tools, student behavior documentation, and staff interviews. It is important to note here that the whole school was the unit of analysis in this evaluation.

Significance

This evaluation assessed the implementation and impacts of SWPBS within selected schools in a large school district in the Inter-mountain West. The evaluation determined the outcomes of SWPBS in terms of the goals of positive social and learning outcomes while reducing student behavior problems in consideration of specific levels of implementation at the school sites. This provides important information to schools for the decision making process for systems and programs for helping improve student behavior and achievement.

Limitations

This study was conducted with four elementary schools over the course of three school years; the year prior to SWPBS implementation, and years one and two of implementation. Due to the small, purposive sampling the ability to generalize the findings to other settings is limited. The data collected is cross sectional and results may vary. The results provided limited longitudinal information. In addition, the researcher has worked in schools that have implemented SWPBS.

Definitions

Adequate Yearly Progress (AYP) is an accountability system for schools based on the participation and academic achievement on state designed tests in English/Language Arts (ELA) and math.

Benchmarks of Quality (BoQ). The BoQ is a tool to be used by SWPBS teams intended to measure the implementation of SWPBS (Cohen, Kincaid, & Childs, 2007).

CIPP approach (context, input, process, product). An evaluation framework developed by Stufflebeam starting in 1966 (Stufflebeam, 2003), to serve managers and administrators facing four different kinds of program decisions including *context* (planning), *input* (structure), *process* (implementation) and *product* which encompass feedback decisions measuring results of the program, useful in determining future directions (Fitzpatrick, Sanders, & Worthen, 2004).

Positive behavior support (PBS) involves the assessment and reengineering of environments so that individuals with problem behaviors experience reduction in their problem behaviors and increase the social, personal, and professional quality of their lives. Positive behavior support is the application of behavior analysis and systems-change perspectives within the context of person-centered values to the social problems created by behaviors such as self-injury, aggression, property destruction, defiance, and disruption. It is an approach that focuses on positivity rather than punishment, and provides a practical science regarding how learning and behavior change occur. The overriding goal of PBS is to enhance the quality of life for individuals and their supporters in home, school, and community settings. The interest in positive behavioral support lies in the promise it holds for addressing the difficult challenges posed by problem behaviors in our schools (Horner, 1999). In other research PBS is sometimes referred to as Positive Behavioral Interventions and Supports (PBIS).

Responsiveness-To-Intervention (RTI). A 4-step process used to respond to students who are not making adequate achievement progress in school. There are four

steps to this process: (1) screening, (2a) implementing sound classroom instruction, (2b) monitoring responsiveness to classroom instruction, (3a) implementing a supplementary, diagnostic instructional trial, (3b) monitoring responsiveness to a supplementary diagnostic trial, (4) designation of learning disability and special education placement (Fuchs & Fuchs, 2001).

School-wide positive behavioral support (SWPBS) is a behaviorally based systems approach to enhancing the capacity of schools, families, and communities to design effective environments that improve the fit or link between research-validated practices and environments in which teaching and learning occur (Office of Special Education Programs, OSEP, 2002).

System-wide Evaluation Tool (SET). The SET is a tool designed for the evaluation of a school's level of implementation of SWPBS. "The SET evaluates a total of twenty-eight research questions across seven feature areas. The feature areas include (a) expectations defined, (b) behavioral expectations, (c) acknowledgement procedures, (d) correction procedures, (e) monitoring and evaluation, (f) management, and (g) district level support" (Todd, Lewis-Palmer, Horner, Sugai, Sampson, & Phillips, 2003).

Title I. A set of programs administered by the United States Department of Education originally established by the 1965 Elementary and Secondary Education act to provide educational funding to schools that serve a high percentage of students from low-income families.

Summary

School-wide Positive Behavior Support is designed to minimize problem behaviors within a whole school context. Many programs are implemented without

sufficient information to determine the degree of fidelity to the original theoretical structure. Other programs are implemented without common understanding of expectations or outcomes. This evaluation examined the implementation and impacts of the SWPBS system in four elementary schools. The next chapter provides an overview of SWPBS and includes examples of implementation research.

CHAPTER TWO

REVIEW OF LITERATURE

The following literature review provides an overview of SWPBS including a theoretical background, research on effectiveness, a summary of selected evaluations, and examples of implementation research. The theoretical background provides a conceptual framework for SWPBS. The remaining sections highlight how SWPBS has been implemented in schools and what have been impacts of those implementations.

Applied Behavior Analysis and School-wide Positive Behavior Support

Behaviorism seeks to understand behavior as a function of environmental histories of reinforcing consequences (Skinner, 1953). Applied behavior analysis (ABA), which was developed from behaviorism, is based on the concept that human behavior is influenced by many factors, including environmental, physical, social, biobehavioral, and behavioral (Sugai et al., 2000). Applied behavior analysis is the process of using behavioral principles to improve specific behaviors and evaluating whether or not any changes in behavior are attributable to the application of those principles (Baer, Wolf, & Risley, 1968). Baer et al. (1968) used applied research to investigate variables that could improve selected behaviors. Their findings indicated that ultimately one has successfully analyzed a behavior when control can be exercised over that behavior. Applied behavior analysis utilizes four primary principles of reinforcement: positive reinforcement (the introduction of a positive stimulus following a behavior in an effort to increase the occurrence of that behavior); negative reinforcement (the removal of a negative stimulus following a behavior in an effort to increase the occurrence of that behavior); positive punishment (the introduction of a negative stimulus following a behavior in an effort to

decrease the occurrence of that behavior); and negative punishment (the removal of a positive stimulus following a behavior in an effort to decrease the occurrence of that behavior) (Alberto & Troutman, 2006). The application of one or a combination of these four principles can change specific behaviors.

Positive Behavioral Supports (PBS) increase prosocial behaviors, reduce the frequency of problem behaviors, and are based on the extensive research in applied behavior analysis (Carr et al., 2002). Carr and colleagues argued that there are two critical components of applied behavior analysis embedded in PBS. First, ABA provided a conceptual framework for PBS; specifically with the stimulus-response reinforcing consequence. Second, PBS provided a number of assessment and intervention strategies, including functional analysis. Carr et al. (2002) concluded, “were it not for the past 35 years of research in applied behavior analysis, PBS could not have come into existence” (pg. 5).

Positive behavior support, while incorporating elements of ABA, has evolved and has an identity of its own (Carr et al., 2002). Specifically this identity is related to the reality of conducting research in natural settings that require changes in “assessment methods, intervention strategies, and the definition of what constitutes a successful outcome” (Carr et al., 2002, p.5). In addition, PBS has separated from ABA by focusing on the person to plan interventions and supports rather than focusing on the services available and fitting the person into a service. This is a wraparound approach that involves a team of support, focus on real-life settings, and a focus on fixing problem contexts rather than problem behaviors (Carr et al., 2002). This is a shift from the traditional line of practice of focusing on fixing the student or the behavior, rather than

adjusting the environment to support the student. School-wide positive behavior support is the extension and application of PBS to the “whole school context in an effort to prevent, as well as change, patterns of problem behavior” (Horner, Sugai, Todd, & Lewis-Palmer, 2005, p. 360).

Bioecological Theory and School-wide Positive Behavior Support

Bioecological theory, formerly known as ecological theory, focuses on the interacting effects between individuals and their environments (Bronfenbrenner, 1979, 2005). There are five major assumptions of the bioecological view that have consequences for SWPBS:

1. Children are part of many different social systems.
2. Disturbed behavior does not arise solely from children, but from a mismatch between behaviors and expectations.
3. Interventions are designed to make systems work.
4. Improvement in any part of the system benefits the entire system.
5. Intervention must involve the student and the environment (Apter, 1977).

Of particular significance to the conceptual framework of SWPBS is the bioecological emphasis on the student and the environment. This is important because it requires a change from the traditional approach of changing the person, to changing the environment to support the person. Many historical attempts to solve student problem behavior issues have focused solely on the student, while SWPBS addresses the need to match the environment with the needs of the student. Traditional approaches to improving student problem behaviors have had limited success.

Noell et al. (2005, 2009) support bioecological theory, arguing that the most effective way to change student outcomes is to change their environment. They argued that the most important environmental factor within schools is the behavior of educators. They contended that if educators change the environment to support students according to their needs, student behaviors will improve. Finally, in order to get behavior changes, systematic relevant environmental supports are required. School-wide Positive Behavior Support aligns with bioecological theory because SWPBS provides consistent behavioral expectations throughout the school. In addition, in the second and third tiers of SWPBS an important factor in attempting to eliminate student behaviors involves identifying and altering the environmental antecedents contributing to student misbehaviors.

School-wide Positive Behavior Support Overview

Positive behavior support emerged from the assumption that typical school discipline practices are not effective for promoting and supporting prosocial behaviors in schools (McKevitt & Braaksma, 2008). Typical school discipline practices consist of punishments for inappropriate behaviors, including exclusionary practices such as suspension. Although punishment and exclusion may produce a rapid decrease in misbehavior at the time it occurs, they do not produce sustained behavior change nor provide teaching opportunities to promote prosocial behaviors (Constenbader & Markson, 1998; Skiba & Peterson, 2000).

Positive reinforcement techniques are effective in promoting prosocial behavior and are more likely to produce sustained behavior change than punishment techniques; however, school staffs generally underuse positive reinforcement techniques (Maag, 2001). A high degree of positive acknowledgement of students' appropriate behaviors

can foster positive relationships between students and staff, which could positively influence school climate and student outcomes (Baker, Terry, Bridger, & Winsor, 1997).

Positive behavior support first emerged in the mid-1980's as a practical approach for decreasing student problem behaviors (Dunlap, Carr, Horner, Zarcone, & Schwartz, 2008). The approach uses a “data-based assessment process, empirically validated intervention strategies, systems change to promote utilization and sustainability, and procedures for heightening responsiveness to consumers’ preferences and community relevance” (Dunlap et al., 2008, p. 982). Carr et al. (2002) identified the essential features of positive behavior support that have been summarized in Table 1 by Dunlap et al. (2008).

Table 1

Defining Features of Positive Behavior Support

- 1 Comprehensive lifestyle change and improved quality of life are goals of any intervention and can only be defined based on the values of those receiving support.
 - 2 Interventions and supports are to be seen and implemented from a long-term, life span perspective.
 - 3 Interventions must possess ecological validity, in that strategies of intervention and support must be feasible in, relevant to, and effective in real-life settings and situations.
 - 4 Principal stakeholders (such as parents, teachers, friends, employers, and siblings) function as collaborators and partners in the development and implementation of interventions and support plans.
 - 5 Social validity is a primary and pervasive criterion of effective procedures and intended outcomes.
 - 6 Interventions are developed with an understanding that ensuring fidelity with respect to support and sustainability requires attention to systems variables.
 - 7 Support plans are developed with a comprehensive emphasis on prevention, and an acknowledgment that active and functional intervention occurs when problem behaviors are not present.
 - 8 Support plans are (a) based on assessment of medical, behavioral, and educational variables; (b) guided by principles drawn from behavioral and biomedical science; and (c) evaluated through overt measurement of impact.
 - 9 An appreciation that optimal effectiveness requires the utilization of knowledge derived from a variety of methodological practices.
 - 10 A pragmatic understanding that contributions to the development of effective interventions and supports can come from multiple theoretical perspectives.
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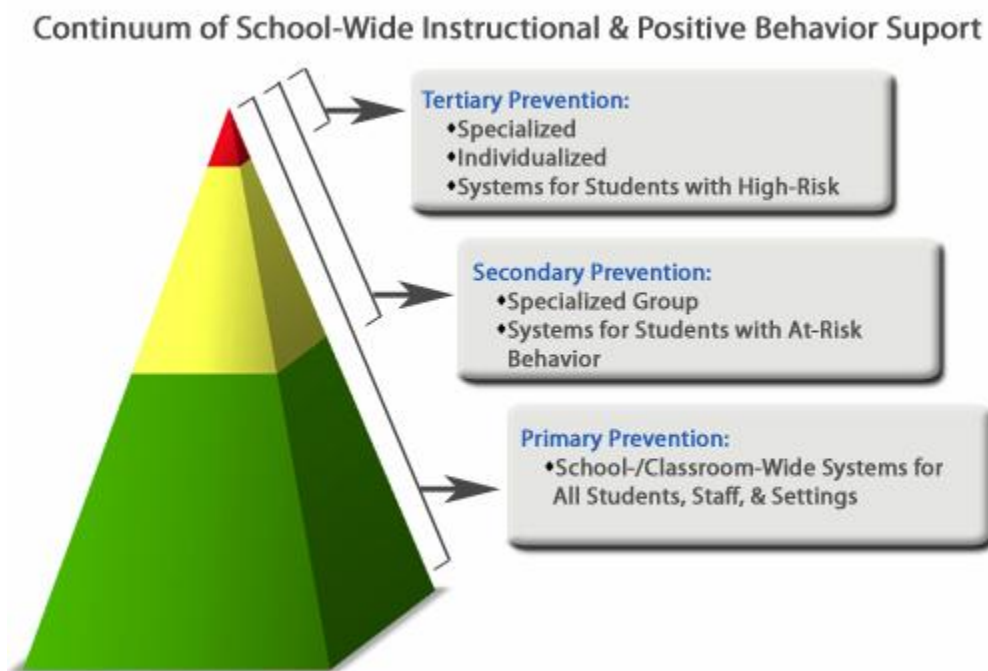
The expansion of PBS to universal level SWPBS practices can be described by a few elements. First, each school must have clearly defined expectations and behavioral examples. Second, there must be procedures in place for teaching expected behaviors to students. Third, procedures must be in place to positively reward or encourage expected behaviors. Fourth, procedures for preventing problem behaviors must be established with consistent and clear outcomes when problem behaviors occur “by teaching and strengthening prosocial replacement behaviors” (Sugai & Horner, 2002, p 33) while considering the contextual function of the problem behavior. Fifth, procedures for record keeping and decision making that allows for regular feedback to students and staff on SWPBS implementation efforts also be in place. Finally, the data must be used on a regular basis to make adjustments, if needed, to improve student behavior (Sugai & Horner, 2002; Sugai & Horner, 2006). To ensure successful implementation of these elements, the following steps and procedures should be followed.

The primary, or universal, level of SWPBS is the most important as it provides the base of SWPBS and should meet the needs of about 80% of the students (Sugai, 2009). The secondary tier (typically about 15% of students) in the model focuses on students who are at risk for problem behaviors and need additional supports to help promote prosocial behaviors. For example, the Check In-Check Out (CICO) program is a potential secondary level intervention that has been used successfully in reducing problem behaviors (Todd, Campbell, Meyer, & Horner, 2008). Check In-Check Out typically involves rewarding students for meeting daily behavioral objectives.

The tertiary prevention tier provides services with the most intense behavior-support needs, which are necessary for approximately 5% of students. At this level

specialized interventions are tailored specifically to meet the needs of the individual student. Ideally, collaborate wraparound interagency cooperation (e.g., pediatrician, social services, juvenile justice, etc.) is employed to ensure supports are provided beyond the school building if necessary. The system is illustrated in Figure 1.

Figure 1. SWPBS Three-Tier Prevention Approach



*From Sugai, 2009

SWPBS Implementation Process

SWPBS Team

Teaming for SWPBS is “working as a cohesive, integrated, and representative collection of individuals who lead the systems change and implementation process” (Office of Special Education Programs, 2004, p. 26). Sugai, Horner, Lewis-Palmer, and Todd (2005) recommended that the implementation of SWPBS be organized and

monitored by a team of four to eight individuals consisting of at least one administrator and other school staff members committed to working on changing the behavioral climate of the school. Because schools generally have several teams already established and human resources at schools tend to be already stretched quite thin, Sugai et al. (2005) recommended a strategy of analyzing the roles, goals, and measurable outcomes of each school committee. Similar goals and outcomes can be combined, and those that do not have measurable outcomes can be eliminated. For example, if a school has a parent outreach committee and a community engagement committee, school resources might be more effectively used if these committees are combined. A similar approach should be taken to analyze initiatives and combine similar ones or eliminate those that do not have well-defined outcomes for students. For example, if a school has an initiative to improve reading achievement and a separate initiative to improve writing achievement, these initiatives might be combined as they are directly related.

To function effectively, team members should take on certain roles (Iverson & McPhee, 2002). There needs to be a team facilitator whose role it is guide the conversation and ensure the group remains focused on the topic at hand. There also should be a timekeeper and recorder to keep the group on track and organized. Someone must be responsible for creating an agenda and making sure all team members know the purpose of the meeting for that day. Teams should meet regularly (e.g., once every 2 weeks at a prescribed time) to ensure adequate planning time. Persons with skills in facilitating group communication and group participation should also be identified to ensure that the ideas of all team members are expressed and considered. If roles and

responsibilities are clearly established the team will be more efficient and decision making will be more effective (Iverson & McPhee, 2002).

The team has the main function of providing leadership for the school's PBS efforts (McKevitt & Braaksma, 2008). The team works to assess school needs, develop expectations, train staff to implement the strategies, and evaluate the effectiveness of SWPBS efforts. The team should create and maintain an action plan to guide its ongoing efforts, and review and update the action plan regularly. Additional functions of the team are to address sustainability issues, report to community stakeholders, and obtain and allocate resources for SWPBS.

Staff Buy-In

There must be sufficient acceptance or '*buy-in*' among staff of SWPBS and willingness to implement associated procedures with integrity. Sugai et al. (2005) recommend that a minimum of 80% of staff be willing to implement SWPBS procedures. Buy-in percentage can be measured by an anonymous ballot that indicates support for implementation of SWPBS. Sugai et al. (2005) indicated that schools that have less than 80% of the staff committed to SWPBS may experience difficulties with implementation, sustainability, and effectiveness.

Scott (2002) recommended several strategies for responding to common arguments against using SWPBS. Some educators may believe their responsibility is only to teach academics. However, many researchers (e.g., DiPerna & Elliott, 2000; Elliott, Gresham, Freeman, & McCloskey, 1988) have demonstrated a strong positive correlation between a student's academic performance and their social skills. Therefore, they often must be taught simultaneously for some students to produce positive academic outcomes.

A potential obstacle for staff buy-in may be that teachers believe that current activities are already sufficient and that they are already effectively meeting the behavioral needs of all students. If this is the case, then the school's office discipline data should be presented to the staff in order to demonstrate how SWPBS may be useful in meeting the needs of the students. In addition, surveys such as the Effective Behavior Support Survey (Sugai, Horner, & Todd, 2000) can be useful to determine staff perception of components of PBS already in place and priorities for making changes.

Finally, some school staff members may not believe that positive reinforcement and acknowledgement of appropriate behavior, the foundations of SWPBS, are best for students. Some staff may believe SWPBS practices have long-term harmful effects for students. However, several research studies strongly suggest that rewards do not pose any negative effects on student motivation or performance (Cameron, Banko, & Pierce, 2001).

McKevitt and Braaksma (2008) summarized school policies for implementation to promote SWPBS. They recommended that a handbook be developed that incorporates the school SWPBS team overall approach and describes the steps to managing behavior at the primary, secondary, and tertiary levels of prevention. Another suggestion for school policy is aligning SWPBS with hiring practices by including SWPBS expectations and questions in applicant interviews.

The first critical feature of a SWPBS system is to establish clear and consistent school-wide expectations (Sugai et al., 2005b). The SWPBS team and/or the school personnel should identify three to five behavioral expectations that are specific to the needs and culture within the school building. The stated expectations should be positive,

void of negative rules, brief, and developmentally appropriate. Expectations become more memorable for students if they are linked to an acronym or a logo (Sugai et al., 2005b). However, a team should not spend an excessive amount of time trying to match the behavioral expectations to an acronym. The behavioral expectations should apply to all locations within the school, should be posted, and used by all staff members.

Classroom teachers may choose to adopt the building-wide expectations for their own classroom. If they do not, it is recommended that their classroom rules do not conflict with the school-wide expectations.

The second critical feature is to teach the behavioral expectations to students. The broadly stated behavioral expectations should be specific and observable for each location within the school. For example, “be respectful in the cafeteria” may be defined as putting all garbage in the trash. The same expectation in the classroom may be defined as putting forth best effort and encouraging others to do so as well. School staff may use a teaching matrix to assist to define specific behavioral expectations (Sugai et al., 2005). School personnel should identify the best examples of the expectation in the location and an example that addresses the most problematic behavior in that location. The matrix may then be used to guide instruction. School personnel should develop lessons to teach the behavioral expectations as laid out on the matrix.

Behavioral expectations must be taught to students (Colvin et al., 1993; Kameeuni & Darch, 2004; Sugai et al., 2005b). The instruction should be direct and explicit, following a similar format of direct instruction for academics. Instruction should first identify the expectations or concepts being taught. For example, “Today we are going to learn about being respectful in the cafeteria.” Instruction should include modeling of the

expected behaviors and modeling of non-examples of the expected behaviors. Non-examples of the expected behaviors are included so that students learn to discriminate between acceptable and unacceptable behaviors. Using self-talk to explain thought process while modeling examples and non-examples makes the thinking strategy overt for students. It is good practice to have only adults demonstrate the non-example behaviors during the instruction so students do not inadvertently practice undesired behaviors. Students should be given an opportunity to practice the expected behaviors repeatedly in the instructional setting. Corrective feedback and acknowledgement of demonstrating the expected behaviors during practice opportunities allows students to build their accuracy and fluency in demonstrating the behavioral expectations throughout the school settings. The method of delivering instruction should be matched to the students' developmental level. The language used in the instruction also should be matched to the developmental level of the students.

It is important for the team to develop a schedule to teach expectations (Sugai & Horner, 2002). Each school should have a plan to provide initial instruction on the school-wide expectations for all students at the start of the school year. Schools often rotate students through instructional stations in each school location for this initial instruction. A rational rotation schedule across multiple school days helps to ensure the efficiency of the instruction (McKevitt & Braaksma, 2008). Additional instruction or booster sessions should be provided throughout the school year, based upon needs identified from the data being collected to evaluate effectiveness of the SWPBS system (McKevitt & Braaksma, 2008).

Once students have been taught the behavioral expectations, they need to be acknowledged for demonstrating the expected behaviors (Sugai & Horner, 2002). The universal primary prevention level of SWPBS should include a positive reinforcement system to catch students behaving appropriately in order to maintain the desired behaviors. The reinforcement system may include a variety of rewards. Some schools use tangible rewards (e.g., tickets that may be redeemed for prizes), access to privileges or preferred activities (e.g., time to use the computer), or social recognition (e.g., name announced at assembly and picture in the hallway). The SWPBS team should consider whether rewards would be delivered to individual students, groups of students, classrooms, grade levels, or all students in the school. The developmental level of the students should be taken into consideration as the team creates the acknowledgement system. It is often beneficial to include students in the process of determining the rewards available, particularly at the secondary grade levels. Regardless of the rewards chosen, the system should be easy and efficient for all staff members to use.

Positive behavior support is designed as a system to support the academic and behavioral success of all students. However, one key issue in developing the system is to change adult attitudes and adult behavior. It is critical that school personnel believe that it is their responsibility to teach expectations and shape the environment to best support student success. To foster these changes in staff behavior, if needed, the team should consider developing a system to acknowledge staff for implementing the school-wide PBS system (McKevitt & Braaksma, 2008).

The fourth component of a SWPBS system is a set of clear and consistent consequences for behavioral violations (Sugai & Horner, 2002). Although the majority of

students respond to the behavioral instruction and acknowledgements provided to them, some students still demonstrate inappropriate behaviors. Therefore, a system must be put into place that provides students with corrective consequences in response to misbehaviors. The consequence or discipline system should clearly identify consistent staff responses for behavioral infractions and when staff members need to document behavioral issues. A leveled consequence system that groups behaviors with similar severity levels or similar impact on the classroom environment is often used. The SWPBS team may then identify consequence options for each group of behaviors, ensuring that the intensity of the consequence options match the intensity and severity of the behaviors. Consequences may range from fairly minor, such as a verbal reprimand or redirection, to more intense consequences, such as suspension and expulsion (Sugai & Horner, 2002).

The consequence for behavior infractions should also include a teaching component. This component may range from reminding the student of the behavioral expectation to actually reteaching and practicing the expected behavior in the location where the behavioral infraction occurred. It is essential that the system should be easy for staff to use and all staff members should consistently use the system (Sugai & Horner, 2002).

Along with identifying proper staff response to behavior infractions, the team should identify when and how staff members document inappropriate behaviors. Information collected about the behavioral incident should include the date and time of the incident, the student's name and grade, the classroom teacher's name, the referring person's name, the location of the incident, and consequence given. Some schools also

identify the potential function of the student's behavior on the referral form. These data should be entered into a database and should be used by the team to guide decision making about program effectiveness (Sugai & Horner, 2002).

Data-Based Decision Making

Data on the implementation of the SWPBS system and its effects on student outcomes must be collected. Researchers increasingly recognize the value of measuring implementation fidelity as a necessary part of evaluating interventions (Century, Rudnick, & Freeman, 2010). It is impossible to know whether undesirable outcomes are due to a program model of change or due to poor or incomplete implementation (Century, Rudnick, & Freeman, 2010). School-wide Positive Behavior Support has several established measures of implementation fidelity.

The School-Wide Evaluation Tool (SET; Sugai et al., 2001) is an instrument that measures implementation fidelity of the universal level of SWPBS. The SET is a research instrument designed to evaluate the level of implementation of the key features of a SWPBS system (Horner et al., 2004). The SET measures the level of implementation in seven areas: behavioral expectations defined, behavioral expectations taught, behavioral expectations rewarded, systematic response to rule violations, information gathered to monitor student behavior, local management support for school-wide procedures, and district-level support for school-wide procedures. An independent observer usually completes the SET for a school. The observer completes a document review, observations within the school, and interviews with the administrator, staff, and students. The SET yields a summary score for each of the seven areas and an overall mean score. The goal is to obtain at least 80% on the mean score and 80% on the subscale score of expectations

taught. When schools reach these levels, it is accepted that they are implementing SWPBS with fidelity. Schools that are able to reach and maintain this level of implementation tend to experience the benefits of SWPBS that have been reported in the effectiveness research (Horner et al., 2004).

The Team Implementation Checklist (TIC; Sugai, Horner, & Lewis-Palmer, 2001) is another tool used to evaluate the implementation of the universal level of SWPBS. The team should complete the TIC at least once per quarter. The TIC lists several steps to implementing the universal school-wide PBS system. The team rates itself on each action step. Each step is rated as either achieved, in progress, or not started. The result is the percentage of steps achieved. The goal is to have at least 80% of the steps achieved to indicate that the universal level of the SWPBS system is in place and functioning (Sugai et al., 2005). School personnel should include steps in the action plan to address items on the TIC that are marked as in progress or not started.

The Benchmarks of Quality (BoQ) is a tool used by SWPBS teams intended to measure the implementation of SWPBS (Cohen, Kincaid, & Childs, 2007). The implementation critical elements measured are: (a) PBS team, (b) faculty commitment, (c) procedures dealing with discipline, (e) data entry and analysis plan, (f) expectations and rules, (g) reward/recognition program, (h) implementation plan, (i) crisis plan, and (j) evaluation (Kincaid, Childs, & George, 2005). A study of the psychometric properties of the BoQ suggests that it is a reliable, valid, and useful instrument for measuring the fidelity of implementation of the primary level of SWPBS (Cohen, Kincaid, & Childs, 2007).

A comprehensive evaluation plan will must also include evaluating the impact of SWPBS on student behavior. Behavior infraction or office discipline referral data are efficient, effective, and naturally occurring ways to monitor the impact of the universal SWPBS system on student performance (Sugai & Horner, 2002). Office discipline referral data should be entered into a data system on a regular basis. Analysis of the data should be available in graphic format for easy use in decision making. An example of an efficient data system often used for collecting and using office referral data is the School-Wide Information System (SWIS; www.swis.org).

School personnel should regularly review the office discipline referral data at team and faculty meetings to determine if changes should be made to the SWPBS system (Sugai & Horner, 2002). Office referral data can be analyzed regularly to determine trends or patterns of behavior. For example, school personnel can examine the types of problem behaviors, the locations of the problem behaviors, and the most problematic times throughout the school day. Regularly reviewing the data allows the team to use behavior referral data as a formative analysis tool. For instance, if the data indicate an increase in the number of office discipline referrals in a specific location or at a particular time, the team could address the issue. The team should collect additional data to determine why the problem is occurring and then implement an action plan to address issues with problem behaviors. The ongoing data collection can be used to evaluate the impacts of the plan.

Office discipline referral data should be reviewed at the end of the year as an evaluation tool. End of the year office referral data can be used to determine the overall impacts of the SWPBS system for the current year and can be compared to previous

years. The total number of office referrals could be compared across several years to determine if and how the SWPBS is impacting student behaviors. This data can then be used for future SWPBS and school improvement planning.

Schools use additional school-wide data to determine the impacts of SWPBS on student outcomes as well. The team may want to consider examining the impacts of PBS on attendance rates, suspension and expulsion data, and the number of students who drop out of school. The team can examine the impacts of the SWPBS system on academic achievement. Early research has documented that schools at which SWPBS has been implemented demonstrate higher academic achievement on statewide or district-wide assessment (eg. Horner et al., 2005; Lusilli et al., 2005; Sugai et al., 2005). In addition, schools using a response-to-intervention (RTI) approach for academics have seen larger improvements in academics when academic interventions are combined with positive behavioral support systems (McIntosh, Chard, Boland, & Horner, 2006).

SWPBS Implementation Effectiveness Research

Studies have found a positive relationship between level of SWPBS implementation fidelity and reduction of student problem behaviors (Bazelon, 2006; Florida PBS Project, 2005; Horner, Sugai, Eber, & Lewandowski, 2004). The Illinois PBIS Evaluation Center found that state School-wide Information System (SWIS) data indicated that in fiscal year 2005 PBIS schools that had reached full implementation, as measured by the SET, had significantly fewer discipline problems than those schools that have not yet reached full implementation (Bazelon, 2006). In another study, fully implementing elementary schools had a 46% lower rate of office discipline referrals

(ODRs) than partially implementing schools, and fully implementing middle schools had a 38% lower rate (Horner et al., 2004).

The Illinois Positive Behavior Interventions and Supports Fiscal Year 2006 End of the Year Report compared 91 schools in one Illinois school district that were fully implementing SWPBS, with 61 that had only obtained partial implementation of SWPBS. The End of the Year Report indicated that the difference in improved student behavior between fully and partially implementing schools was statistically significant. Schools that were fully implementing SWPBS had fewer student discipline infractions. In the same report, it was reported that in another Illinois district, 112 Schools with full SWPBS implementation, as measured by SET, were compared to 84 partially implementing schools, and similar results were discovered.

The Florida Positive Behavior Support Project conducted by researchers at the University of South Florida (2005) utilized the *PBS Benchmarks of Quality* with 91 schools in 2004–2005 and 184 schools in 2005–2006. Findings demonstrated that ODR rates were consistently 25–30% lower in schools with higher levels of SWPBS implementation fidelity. Eighteen schools with higher levels of implementation realized nearly a 25% greater reduction of ODRs than the 14 schools that did not implement as highly. Overall, schools where the staff was trained in the PBS demonstrated a 60% reduction in number of ODR rates after their first year of implementation. Middle schools in this evaluation demonstrated no reductions in ODRs until the second year of implementation.

Initial school team training followed by continuous support and technical assistance is important for helping school implement SWPBS with fidelity. In a

randomized, wait-list controlled trial assessing the impacts of SWPBS, Horner et al. (2009) found that training and technical assistance provided over a three year period resulted in the improved implementation of universal level SWPBS practices. The research was conducted between 2002 and 2006 with 30 elementary schools in both Illinois and Hawaii. Implementation fidelity, as measured by the SET, was significantly higher for the schools that had five to six days of state trainer training rather than one or two days of district training.

Bradshaw, Koth, Thornton, and Rock (2008) examined the impact of SWPBS on staff reports of school organizational health using a group-randomized controlled effectiveness trial of SWPBS conducted in 37 elementary schools. The goal of the study was to explore the influence of the level of implementation fidelity on school climate. Longitudinal multilevel analysis revealed a significant effect with higher levels of implementation fidelity of SWPBS corresponding to greater improvements on the schools' organizational health, staff affiliation, and academic emphasis over the 5-year trial. The authors were careful to note however, that the association between SWPBS implementation and growth may not be causal since the fidelity levels could not be randomly assigned.

The vast majority of evaluation studies, as referenced in chapter two, measured the effectiveness of SWPBS by the reductions in the number of office discipline referrals (ODR) and numbers or days of in-school (ISS) and out-of-school, suspensions (OSS), with the consequent increased amount of instructional time. Studies have consistently reported reductions of ODR from 80% to 22% in the first year of SWPBS implementation and 76% to 22% during the second year. In addition, researchers report

reductions between 62% and 19% of OSS and significant decreases in the use of exclusionary and punitive discipline practices.

Greenfield (2004) conducted a case study on impacts of SWPBS in three elementary schools and found consistent reductions in student behavioral indicators from the baseline year to year three of PBS implementation. All three sites reported reductions in ODRs and OSS between the baseline (1999–2000) and Year 3 (2002–2003). For ODRs, School A reported an 80.3% reduction; School B, 32.3%; and School C, 59.3%. For OSS reductions, School A, 19.0%, School B, 29.7%, and School C, 34.3%. Finally expulsion reductions were 100% for Schools A and B and 0% for School C.

In 2004–2005, the first cohort of New Hampshire SWPBS schools experienced a 28% drop in ODRs. There also were 568 fewer ISS days and 352 fewer OSS days. The hours regained from fewer suspensions were estimated to total 15,647—10,496 hours for student learning and 2,958 hours for administrative leadership. At the elementary school level in 2003–2004, physical aggression was reduced by 46% and defiance, disrespect, and noncompliance were reduced by 73% (New Hampshire Center for EBIS, 2005).

Muscott, Mann, and LeBrun (2008) also studied impacts of SWPBS in New Hampshire. Their evaluation report presented the outcomes for the first cohort of 28 early childhood and K-12 schools at which SWPBS was implemented as part of a statewide systems change initiative that began in New Hampshire in 2002. Within two years, nearly all schools were able to achieve SWPBS implementation with fidelity, as measured by the SET, and continue to maintain fidelity for the following school year. Implementation in these schools resulted in a reduction of 6,010 ODRs, 1,032 suspensions, with middle and high schools benefiting the most. According to the authors' calculations, these

reductions helped recover 864 days of teaching, 1701 days of learning, and 571 days of leadership based upon the time that was previously lost to dealing with student problem behaviors.

The authors also asked the question; do the schools that implement SWPBS with fidelity have increases in academic achievement? As measured by the New Hampshire annual state reading math test, 73% of the schools achieving SWPBS fidelity improved the percentage of students reaching the basic level or above. Based on the state reading test, 41% of the same schools improved the percentage students reading at a basic level or higher.

In 2001, researchers at the Center for the Prevention of Youth Violence at Johns Hopkins University joined researchers at the Maryland State PBIS Center and agreed to conduct a systematic evaluation of the PBIS initiative (Maryland PBIS, 2007). Twenty-one SWPBS schools and 16 comparison schools across five counties were randomly selected for the Project Target study (Maryland Project Target, 2006–2007). The purpose of the study was to determine the following: (a) if schools that implement the PBIS model report fewer discipline referrals than schools that do not implement the model; (b) if students in schools implementing PBIS have higher academic achievement than students in other schools; (c) if students in PBIS schools are less likely to exhibit problem behaviors; and (d) if teachers in PBIS schools have higher rates of attendance and greater retention than teachers in non-PBIS schools (Maryland Project Target, 2006–2007).

In addition, the Maryland PBIS leadership team reviewed SWPBS data submitted by schools (Maryland PBIS, 2007) to determine SWPBS effectiveness at the school level.

For the 2003–2004 school year, when comparing mean scores of ODRs per day per 100 students to the national average, the team found that the elementary and middle schools scored better than their national counterparts. In the study, they discovered that there were .38 ODRs per day per 100 students for pre-K and K–5 versus a national average of .43; and .89 ODRs per day per 100 students for grades 6–8 versus a national average of .95. Staff members from twelve Maryland schools took their annual reductions in lost administrative and instructional time and calculated the savings using a cost-benefit analysis worksheet provided by the State Leadership team. Collectively, these schools had recovered 233 days of administrators' time and 700 days of instruction for students (Maryland PBIS, 2007).

An evaluation from the Iowa statewide SWPBS initiative conducted over a 3-year period indicated initial positive results (Mass-Galloway, Panyan, Smith, & Wessendorf, 2008). Implementation fidelity, established as receiving 80% or higher on the SET was maintained by each of 3 cohorts over a 3-year period, with the exception of the third cohort which had only had two years of implementation. Over the same period 75% of the schools in Cohorts 1 and 3 ($n = 32$) had a 42% average reduction in ODRs per day. Cohort 2 ($n = 7$) had an increase in ODRs across years. The authors explained a possible reason for the increase could be the increased attention to and reporting of behaviors as a result of SWPBS training. They concluded that there was increasing evidence that schools can reliably adopt SWPBS and that SWPBS implementation yields positive outcomes as a result of fewer ODRs, and that over time it will be critical to relate SWPBS to student achievement gains.

Lafrance (2009) examined the impacts of SWPBS in 134 elementary and 59 middle schools during the 2007-2008 school year in Florida. He found a moderate, negative correlation between implementation fidelity, as measured by the BoQ, and both ODRs and out of school suspension (OSS) days. When examining the relationships between fidelity of implementation and scores on the Florida state mathematics and reading tests, he found no overall significant relationships. However, when the same relationships were examined by grade level, moderate, positive relationships were found between implementation fidelity and reading scores. Lafrance also explored the difference in the state reading and math scores between the quartile of schools that scored highest on the BoQ, those that scored lowest on the BoQ, and schools that did not have SWPBS training. There was no significant difference in the reading scores of the three groups. Conversely, there was a significant difference in the math scores ($p < .01$) with a large effect size (eta squared at .36). Both of the SWPBS quartiles were significantly different from the group that had not received SWPBS training. Finally, Lafrance investigated to what extent the state math and reading scores could be significantly predicted by the fidelity of implementation and the number of years the program had been implemented. He found no statistically significant relationships.

SWPBS and Achievement

Several SWPBS program evaluations and research studies investigated the relationship of SWPBS implementation and math and/or reading achievement. Initial research has demonstrated that schools where SWPBS is implemented have increased academic achievement on statewide or district-wide assessments (eg. Horner et al., 2005;

Lusilli et al., 2005; Sugai et al., 2005). In addition, schools using a response-to-intervention (RTI) approach for academics have reported larger improvements in student academic achievement when academic interventions are combined with positive behavioral support systems (McIntosh, Chard, Boland, & Horner, 2006).

McIntosh et al. (2006) investigated a school district that utilized a combination of universal behavior and reading interventions in an RTI framework for at least five years. They found that the school district had higher proportions of elementary students meeting reading and behavior benchmarks than a large national comparison group.

Putnam, Handler, and O'Leary-Zonarich (2003) found that math and reading scores improved on standardized testing following behavior-support intervention in an urban elementary school. Luiselli, Putnam, Handler, and Feinberg (2005) studied the effects of a whole-school positive behavior support on discipline problems and academic outcomes of students enrolled in an elementary school. The latter study spanned three consecutive school years and included improving instructional methods, formulating behavior expectations, increasing classroom active engagement, reinforcing positive performance, and monitoring efficacy through data-based evaluation. Student academic performance as measured by a standardized test improved in math by 25 percentage points and in reading 18 percentage points.

Putnam, Horner, and Alzozzine (2006) reported that an Oregon comparative district-wide study of four middle and thirteen elementary schools where SWPBS was implemented SWPBS demonstrated increased achievement on the Oregon State Achievement tests as compared with four middle and six elementary schools that did not implement SWPBS. The “schools that implemented SWPBS tended to be schools that

began with lower scores meaning the magnitude of improvement tended to be much higher” (p. 3). These researchers also reported that Horner, Sugai, Todd, and Lewis-Palmer (2005) demonstrated similar findings with another school district of 19 elementary schools. Between the 1997–1998 and 2001–2002 academic years, 13 of the schools SWPBS had been implemented and not at six schools. They compared the percentage of third-graders who met statewide reading standards in the 1998–1999 academic year with the percentage in the 2001–2002 academic year. Seventy-seven percent of the schools that adopted SWPBS support practices had improved outcomes. The change in percentage of students meeting standards ranged from 2% to over 15% in these schools. One of the six schools (16%) where SWPBS had been implemented improved (Putnam, Horner, & Algozzine, 2006).

Lassen, Steele, and Sailor (2006) completed a three-year study of impacts of SWPBS in an inner-city school. They found reductions in ODRs and suspensions and corresponding increases in mathematics test scores from the year one to year three. While reading scores did not increase from year one, positive changes in student performance were documented from year one to year three.

A study conducted by researchers at the Illinois Positive Behavior Interventions and Supports Evaluation Center analyzed the academic performance of schools where SWPBS had been implemented compared with schools that did not implement SWPBS. The researchers found that during the 2002–2003 school year, schools ($n = 52$) where SWPBS was implemented had 62% of their third-grade students meeting the Illinois State Achievement Test Reading Standard. By contrast, only 47% of the students met the

Illinois State Achievement Reading Test Standard in schools ($n = 69$) where SWPBS had not been fully implemented (Horner, Sugai, Eber, & Lewandowski, 2004).

In fiscal years 2002 through 2006, the Illinois PBIS Network participated in a multistate, national PBIS study that assessed the impact of PBIS training on the percentage of students' grade-level performance on standardized reading assessment at the third-grade level. Grade-level performance on standardized reading assessments was 12% higher than the control group in year two, and 10% higher at year three. The authors noted that the results provided only a preliminary indication that schools implementing PBIS were associated with increased third-grade reading performance, and that the finding needs "elaboration and replication" (Horner et al., 2004).

Baltimore County Public Schools, in Maryland, combined a three-tier model for both behavioral and academic interventions. In general, academic interventions included consistent implementation of a core curriculum, ongoing curriculum-based assessment, differentiated instruction, and intensive special education services. Behavioral interventions included universal, targeted, and individual student systems, akin to SWPBS. The Maryland State Assessments (MSA) 2003–2006 results indicated that third-grade scores increased 27% in math and 37% in reading; fifth-grade scores increased 41% in math and 17% in reading (Parr, Kidder, & Barrett, 2007).

McIntosh et al. (2006) completed two studies that investigated the relationship between reading achievement and behavior. The study was a six-year (1998–2004) longitudinal study conducted in one small district. It explored the relationship between reading and student behavior through the prediction of problem behavior in fifth grade. The primary research question was, "To what extents do the ODR and Dynamic

Indicators of Basic Early Literacy Skills (DIBEL) scores in kindergarten predict multiple discipline referrals in fifth grade?” Results indicated that DIBEL scores were a significant predictor of discipline referrals, and that deficits in either behavior or academics were independent risk factors, and indicated a need for interventions in both behavior and academics. The study supported the conclusions that problems in academics precede problems in behavior and that durable-skill deficits accounted for more variance than skills at school entry.

A second, similar study, Reading and Function Study (McIntosh et al., 2006), included 47 students in grades 4–6, with two or more ODRs, from two different school districts. Results indicated that differences in student reading skill levels, based on function of primary problem behavior with escape/avoidance behaviors, resulted in a greater rate of misbehavior than peer-seeking behaviors. The conclusions suggested continued support for integrating reading and behavior support systems, and consideration of academic skills in determining the function of problem behaviors.

Summary

Several evaluation and correlation research studies have been conducted indicating increased academic achievement outcomes associated with SWPBS implementation. Randomized control studies are currently in progress that may indicate that SWPBS implementation may result in increased student achievement. While the current research in this area is promising there are too many variables that may account for the improved achievement outcomes that have been documented. For example, schools that implement SWPBS are often lower achieving academically than comparison

schools and introduce a host of interventions in addition to SWPBS that may account for increased achievement.

School-wide Positive Behavior Support (SWPBS) has developed from the beginnings of behaviorism, that led to applied behavior analysis and functional analysis. Bioecological theory, focusing the interaction between individuals and their environment has combined with behaviorism roots to give rise to SWPBS.

In the short history of SWPBS several studies have examined the implementation and outcomes of the program. Several studies have found that there is a positive relationship between the level of implementation and the reduction of student problem behaviors. Some early research has also indicated that schools that implement SWPBS have correlations with higher academic achievement on statewide or district-wide assessment. This research uses the CIPP evaluation model to study four elementary schools to further investigate possible correlations with implementation fidelity and student behavior and achievement outcomes.

CHAPTER THREE

METHOD

The previous chapter examined several studies that investigated the outcomes of School-wide Positive Behavior Support (SWPBS). This chapter presents the evaluation methods used in this study to address the evaluation questions. An overview of Stufflebeam's (2003) Context, Input, Process, Product (CIPP) Evaluation Model approach to evaluation as used in this summative evaluation study is addressed. The application of the CIPP model to the evaluation questions, the population of the schools, instrumentation, and data analysis are discussed. The evaluation period for this study consisted of the year prior to SWPBS implementation, and years 1 and 2 of implementation: school years 2007-2008, 2008-2009, and 2009-2010 respectively. These schools were selected for the evaluation because they were schools that piloted SWPBS in the school district. The whole school was the unit of analysis for this evaluation.

CIPP Evaluation Model

The CIPP Evaluation Model is a comprehensive model for guiding program evaluations aimed at affecting long-term, sustainable and program improvement, as well as for judging the merit and worth of a program (Green & McClintock, 1991; Stufflebeam, 2003). As explained by Stufflebeam (1971), the model is effective when "There are four kinds of decisions- planning, structuring, implementing, and recycling- which respectively are served by context, input, process, and product evaluations" (p. 5). According to Gall, Borg, and Gall (1996), the CIPP model illustrates how evaluations can contribute to the decision-making process in program management. The CIPP Evaluation Model was selected for use in this study because it can provide feedback on merit, can

identify areas for program improvement, and has a wide base of support in the literature. In addition, the CIPP model provides a comprehensive, focused, and logically organized framework necessary to examine the effectiveness of SWPBS.

Because of its strengths, the CIPP model is often used for program evaluation. Michael (1971) indicated that the CIPP model is likely the most comprehensive conceptualization of evaluation currently available. Goodwin (1975) in, *A Proposed Model for Educational Accountability*, praised the CIPP model. He stated that the model provides a framework for conceptualizing the decision making and focuses attention on the information required for making those decisions. Goodwin noted that the CIPP model focuses on only those factors necessary for the comprehension of the total accountability system, thus limiting evaluations to the most significant aspects. Due to these strengths, Goodwin used the CIPP model to develop a framework for educational accountability for school leaders.

Findley (1971) indicated that the CIPP model has been used extensively in educational evaluations; for example, the model was used to evaluate the Ohio State University Center for Vocational and Technical Education. Findlay noted that the CIPP model “can be adapted flexibly and effectively to mission oriented organizations with complex program structures” (p. 47). White (1981) discussed the use of the model for improving multicultural teacher professional development programs. He concluded that the model’s comprehensiveness enabled the thorough development, organization, and evaluation of workshops. Nicholson (1989) used the model to evaluate reading instruction. He noted that the model is useful in helping teachers make decisions about instructional programs. Recently, Van Kannel-Ray, Lacefield, and Zeller (2008) used the

CIPP model to evaluate a case manager intervention model in a middle school for children at-risk, and Morrison (2005) used the model to evaluate a school system's 'grow your own' principal program.

Application of CIPP Model to Research Questions

The research foci for this study were framed around the context, input, process, and product components of the CIPP model. Three questions reflect context, two reflect input, two reflect process, and two reflect product. It is important to again note that the whole school was the unit of analysis in this evaluation.

Both quantitative and qualitative data were collected to investigate the evaluation questions using the CIPP Evaluation approach. Quantitative data was derived from a variety of sources outlined later in this chapter. The source of the qualitative data is from semi-structured interviews (Appendix A) that were conducted with the following people at each school: principal, a K-2 teacher, a 3-5 teacher, and a counselor. The following sections provide descriptions for each of the CIPP components and discuss the goals, data sources, and related evaluation questions associated with each component. The qualitative data from the structured interview provided information for each CIPP component and is discussed in a separate section.

Context Evaluation

Evaluating the context asks the question, what are the needs of the organization? The context evaluation assesses the needs, assets, and problems within the environment to help decision makers define goals and priorities (Stufflebeam, 2003). In this evaluation, general descriptions of the schools as well as a comparison of their needs were addressed.

Context questions:

1. Why did the school implement SWPBS?
2. What student behavior problems were present at the beginning of the study?
3. What were the levels of student behavior problems within each school the year prior to SWPBS implementation?

The data sources used included student behavior/discipline referrals, achievement and demographic data, as well as staff interviews. These data sources were published state and district records. Additional student behavior data came from student discipline referral data collected from district student information system (SASI) and the School-wide Information System (SWIS) databases used to document and monitor student discipline referrals. Student behavior data and achievement data revealed the needs and problems within the school, and thus should help the school's goals and objectives. Student demographic data help define the environment. Other factors this study reports include adequate yearly progress (AYP) status and Title I status.

To answer the first question, why did the school implement SWPBS, interviews were primarily utilized along with reported discipline referral data. To answer the context questions regarding student behavior problems, student office discipline referrals (ODRs) along with in-school suspension (ISS) days and out-of-school suspension (OSS) days were reported for the year prior to SWPBS implementation. Single ISS and OSS rates were calculated for each school by using the total number of suspension events for a given year divided by the student enrollment for that year and then multiplied by 100 to yield a percentage score. This data were also reported by the frequency of ODRs per year per 100 students. The highest five frequent discipline problem areas were identified. To

answer the final question concerning the levels of student behavior problems, the high frequency discipline problem areas were reported as the percentage of the total number ODRs.

A context evaluation enables stakeholders to have a starting point from which to view the remainder of the evaluation. This context evaluation provided the reason the school leaders decided to implement SWPBS, a general picture of the demographics, as well as the academic and student behavior improvement needs of each school. With this information, researchers and educators were provided a context from which to view the remaining portions of the evaluation.

Input Evaluation

The input evaluation asks the question, how should the needs of the organization be met? The input evaluation examined what the program planned to do. The input evaluation assesses the program strategy and design (Stufflebeam, 2003). The *School-wide Positive Behavior Support: Implementers' Blueprint and Self Assessment* (Dunlap et al., 2004) provides specific guidelines to enable accurate implementation of school-wide positive behavior support (SWPBS). Based upon this document, several instruments have been created for assessing the fidelity of implementation at a school site. The *Blueprint* and corresponding fidelity instruments are used in evaluating the input of SWPBS. The instruments used included:

1. System-wide Evaluation Tool (SET)
2. Benchmarks of Quality (BoQ)

Each of these instruments provides information directing the schools in how SWPBS should be implemented. In addition to these instruments, the interviews produced data

that gave details of the actual SWPBS inputs at each school.

Input questions:

1. What training was provided to the staff at each school?
2. What resources (financial and human) were provided to each school?

The input evaluation investigated what training and resources were provided to the schools to foster implementation. Specifically, this part of the evaluation determined what training, continued support, and money, if any, had been used to foster implementation. The data from this portion of the evaluation came from the staff interviews.

Process Evaluation

The process evaluation asks the question, what is the level of the fidelity of the implementation? This evaluation monitors, documents, and assesses the programs activities (Stufflebeam, 2003). The SWPBS fidelity instruments provide a guide to expected implementation of program procedures and processes. Therefore, these instruments (BoQ and SET) provided an assessment of the degree of actual implementation of the SWPBS program. These instruments provided data for several components of the CIPP evaluation.

The other process question is very similar and asked, how did the school implement SWPBS? This question goes beyond the implementation fidelity measures in an attempt to get a deeper understanding of what the school did specifically to implement SWPBS. Staff interviews provided the data needed to investigate this question.

Process questions:

1. What was the level of fidelity of implementation of SWPBS?

2. How did the school implement SWPBS?

For SWPBS to be most effective it must be implemented with a high degree of fidelity. Several instruments have been designed to help monitor and evaluate the fidelity of implementation. The Benchmarks of Quality (BoQ) has been designed primarily to help schools monitor their own implementation processes, while the School-wide Evaluation Tool (SET) is designed for use by outside personnel to assess and evaluate the critical features of implementation. Using these tools is essential for determining the process of the implementation of SWPBS. Implementation fidelity data were gathered from the BoQ and SET when available. The SET, when available, was the primary indicator for establishing the level of fidelity of implementation. Each fidelity instrument was scored as designed to determine the level of the fidelity of SWPBS implementation. Staff interviews provided additional data regarding implementation.

Product Evaluation

The product evaluation asked the question, did it succeed? This evaluation determines the extent to which program goals have been achieved (Gall et al., 1996). Product evaluation should measure, interpret, and judge a program's achievements, and outcomes from the program (Stufflebeam, 2003). Concerning SWPBS in this study, the product evaluation attempted to answer questions reporting student behavior and student achievement.

Product questions:

1. Did student behaviors change after implementation of SWPBS?
2. Did student academic achievement change after implementation of SWPBS?

The data collection for the product evaluation focused on changes in achievement

and discipline referral rates. The achievement data collected was adequate yearly progress (AYP) data from a state website which reports on English/ Language Arts (ELA) and math achievement for the 3rd and 5th grades. Specifically, this evaluation presents the percentage of students who scored in the meets or exceed proficiency ranges of the ELA and math state criterion references tests over the evaluation period. Student behavior data consisted student discipline referral data collected from the district student information system (SASI) and the School-wide Information System (SWIS). Data from SWIS was only available for the last two evaluation years as schools did not begin using this system until the first year of implementation. Student behavior data was reported for each school for each year as delineated above in the Context section. In addition, student behavior data was reported for each school from the SWIS Year End Report. Data from this report includes referrals per year per 100 students and percent of total referrals by problem behavior for the three most referred behavior problems. These data sources, along with staff interviews allowed for a description of student behavior and academic achievement over the 3-year period.

After data were collected, they were reported in attempt to document trends that had occurred at each school in student behavior and student achievement. First, available implementation fidelity data was given for each school across each of the 3 years when available. Second, implementation fidelity data, as measured by the SET, when available, was described in relation to student discipline referral data (ODRs per year per 100 students) a via line graph in order to determine what was occurring in relation to the two at each school. Finally, t-tests between percentages of pass rates for math CRTs and ELA CRTs with the 3rd and 5th grades across the three years were calculated; for example,

2007/2008 results were compared to 2008/2009 results and to 2009/2010 results. In addition, 2008/2009 results were compared to 2009/2010 results. As a result, three comparisons were conducted for math CRTs and three comparisons were conducted for ELA CRTs to determine if there were significant differences in student achievement, as measured by AYP, across each of the 3 years.

Staff interviews provided additional data regarding the product questions. These interviews revealed staff perspectives on how the school climate had changed. In particular, these interviews provided descriptions of how both student and teacher behaviors have changed since SWPBS implementation.

The goal of SWPBS is to foster pro-social student behaviors and reduce negative student problem behaviors. The ultimate goal of the implementation of almost any program or system in a school is to increase student achievement. Therefore, to develop a better understanding of the outcomes (products) of SWPBS implementation changes in student behaviors and achievement were studied.

Staff Interviews

For each of the CIPP components, semi-structured staff interviews (Appendix A) were conducted to gather additional information that would be difficult to collect solely from quantitative data. The following people were interviewed at each school: principal, a K-2 teacher, a grade 3-5 teacher, and a counselor. Interviews provided important insight into the context, input, process, and products of SWPBS. The interview questions were designed to capture critical elements related to the CIPP components as well as the critical elements of the implementation and outcomes of SWPBS.

Semi-structured interview questions asked all interviewees “the same series of

pre-established questions with a limited set of response categories” (Fontana & Frey, p. 701-702). For the purposes of this study, the last two questions were open ended. Fontana and Frey (2005) suggested that open ended questions can be used infrequently in structured interviews. All respondents were asked the same set of questions in sequence by the researcher.

Participants were selected for various reasons according to their role in implementation. The principal and the counselor were selected because each offered a unique perspective and played key roles in the implementation of SWPBS. Literature on SWPBS indicates that principal commitment and support are key factors in successful implementation (Office of Special Education Programs, 2004). The counselor provides an integral leadership role in SWPBS implementation (Curtis, Van Horne, Robertson, & Karvonen, 2010). Teachers interviewed were selected and participated voluntarily. The criteria for teacher participation included one from grades K-2 and, one from grades 3-5. The selected teachers were not SWPBS committee members because of the concern that members may be more likely to overinflate their positive comments about SWPBS. It was posited that non-committee members were likely to provide a more objective perspective and balance to the principal and counselor interviews.

Interviews for all participants were arranged by the researcher through e-mail or by phone. Interviews were scheduled at times and places which were suitable for the participants. All participants granted the researcher permission to audio record the interview sessions. The time involved to complete the interviews was approximately 10 to 20 minutes. The interview consisted of approximately seven questions (See Appendix A for the Interview Protocol).

Interviews call “for the interviewer to play a neutral role” (Fontana & Frey, p. 702). In maintaining a neutral position the data from the interviews were analyzed using thematic coding. A thematic coding process emphasizes, “analytic procedures” (Charmaz, 2005, p. 509) by an observer. In this study, the researcher approached the respondents with a transcript of predetermined questions.

Data Analysis

First, all interviews were transcribed into a word format. Then the results of the interviews were analyzed in a series of steps, the results were read several times by the researcher to develop and understanding of the content. As the analysis of the interview data evolved, themes and patterns emerged that required a detailed coding process in order to produce a dominant theme. The qualitative data analysis was conducted using Dey’s (1999) approach to qualitative interview data analysis, which requires the analysis of data in the following sequence:

- 1) Open Coding: Details from each interview will be categorized into theme groups.
- 2) Axial Coding: Data will be examined for specific meanings in language and diction.
- 3) Selective Coding: Data will be examined for common relationships and themes amongst groups.
- 4) Synthesis and Generalizations: A description of the interviews will be constructed and conclusions will be drawn.

Each transcript was analyzed to identify thematic strands. The above steps enabled the researcher to identify thematic strands across the various interviews.

When analyzing the data each of the interviews were read through once to get an overall idea of the content of the responses. Next, the interviews were read through again; specific responses were attached to interview questions and corresponding CIPP components. As a result, specific research questions were connected to the responses from the various interviews. During this phase of the analysis, the responses were coded into theme groups for each specific research question that used interview data in the investigation. Finally, a cross analysis of the schools was conducted to investigate common themes among question responses.

Utilizing this approach in addition to the quantitative data collection and analysis allowed for the development of a better understanding of the relationship between school personnel's perceptions towards SWPBS implementation, and the other quantitative data sources. Finally, following professional transcription of the interview, all respondents' names were kept confidential and were assigned a pseudonym for reference in the research findings and results.

Instrumentation

Each of instruments in this evaluation was used to gauge the fidelity of implementation for both researchers and stakeholders. The System-wide Evaluation Tool (SET) is designed to be used by researchers and outside evaluators (Todd, Lewis-Palmer, Horner, Sugai, Sampson, & Phillips, 2003). The Benchmarks of Quality (BoQ) is designed to be used by school teams to measure and assess the implementation process (Sugai, Horner, Lewis-Palmer, 2009; Cohen, Kincaid, & Childs, 2007).

The SET is a tool designed for the evaluation of a school's level of implementation of SWPBS. The SET consists of a total of 28 research questions across

seven feature areas. The feature areas include (a) expectations defined, (b) behavioral expectations, (c) acknowledgement procedures, (d) correction procedures, (e) monitoring and evaluation, (f) management, and (g) district level support (Todd, Lewis-Palmer, Horner, Sugai, Sampson, & Phillips, 2003). The SET gathers data through multiple sources, including a document review, observations, and brief staff and student interviews.

A psychometric analysis suggests that the SET is a valid, reliable measure (Horner, Todd, Lewis-Palmer, Irvin, Sugai, & Boland, 2004). A variety of correlational analysis involving test-retest and internal consistency of items, subscales, and the total SET score, in addition to calculations of inter-observer agreement percentages were used to establish reliability (Horner et al., 2004). The authors evaluated the validity of the SET within Messicks's (1998) construct validity framework and assessed construct validity as well as sensitivity to change in the behavioral procedures used in schools. Horner et al. concluded from their analysis that the SET does provide both construct validity and sensitivity to changes in the behavioral procedures used in schools. The authors also suggest that a school is implementing Tier 1 with fidelity when the total score is at least 80%.

The BoQ is a tool to be used by SWPBS teams intended to measure the implementation of SWPBS (Cohen, Kincaid, & Childs, 2007). The implementation critical elements measured are: (a) PBS team, (b) faculty commitment, (c) procedures dealing with discipline, (e) data entry and analysis plan, (f) expectations and rules, (g) reward/recognition program, (h) implementation plan, (i) crisis plan, and (j) evaluation (Kincaid, Childs, & George, 2005). A study of the psychometric properties of the BoQ

suggests that it is a reliable, valid, and useful instrument for measuring the fidelity of implementation of the primary level of SWPBS (Cohen, Kincaid, & Childs, 2007). Schools have BoQ score of 70 or higher tend to have greater decreases ODR rates that schools with BoQ scores below 70 (Cohen, Kincaid, & Childs, 2007).

Summary

This study used the CIPP model of evaluation to determine the impacts of SWPBS as implemented in four elementary schools. The study specifically investigated the relationship between the fidelity of implementation and both, student discipline problems and academic achievement over three years. Several measures of SWPBS implementation fidelity were collected and compared with school level data on both student achievement and student discipline data.

CHAPTER FOUR

EVALUATION

This chapter presents the findings of this CIPP evaluation. The evaluation examined the implementation and impacts of the SWPBS system in four elementary schools. The findings were derived from staff interviews, implementation fidelity instruments (BoQ and SET), student achievement data, and student behavior data. The evaluation addressed the following specific questions outlined in the CIPP format:

Context:

1. Why did the school implement SWPBS?
2. What student behavior problems were present at the beginning of the study?
3. What were the levels of student behavior problems within each school the year prior to SWPBS implementation?

Input:

4. What training was provided to the staff at each school?
5. What resources (financial and human) were provided to each school?

Process:

6. What was the level of fidelity of implementation of SWPBS?
7. How did the school implement SWPBS?

Product:

8. Did student behaviors change after implementation of SWPBS?
9. Did student academic achievement change after implementation of SWPBS?

This chapter is divided into four sections. Each section corresponds with a CIPP component. Each school is addressed separately in the context, product, and process

section. The schools are addressed together in the process section. Each section examines data from staff interviews and records that include student behavior data, student achievement data, and implementation data.

Context

The context component addressed the general question, what are the needs of the organization? A context evaluation assesses the needs, assets, and problems within the environment to help decision makers define goals and priorities (Stufflebeam, 2003). To determine the needs of the organization in regards to student behavior, the following questions were investigated:

1. Why did the school implement School-wide Positive Behavior Support (SWPBS)?
2. What student behavior problems were present at the beginning of the study?
3. What were the levels of student behavior problems within each school the year prior to SWPBS implementation?

These questions were investigated by interviewing staff members and studying reported student discipline referral data at each school the in the 2007-2008 school year, the year prior to SWPBS implementation. This section is organized beginning with a description of each of the schools followed by sections addressing each context question. The first question was examined using staff interview data while the other two questions were examined using student office discipline referral data.

Characteristics of the Study Schools

The study included four elementary schools in a large school district in the Inter-mountain West. The schools were identified for this evaluation because they were

selected to pilot SWPBS within the school district. The four schools are David, Stefan, Carter, and Boyd. These school names are pseudonyms to protect the confidentiality of the schools and staff members at each school. The demographics of each school are described in detail for the 2008-2009 school year, which was the first year of SWPBS implementation at the study schools.

Schools will also be described in terms of Adequate Yearly Progress (AYP), which is based upon student performance on the criterion referenced tests (CRTs). To demonstrate AYP, a school must meet the benchmarks for all sub-populations in both Math and ELA on the CRTs for both the 3rd and 5th grades. Based on student CRT results, students are divided into four categories; Emergent/Developing (ED), Approaches Standards (AS), Meets Standards (MS), and Exceeds Standards (ES). Students in the ED and AS categories are considered to have not met the standards required by the state Department of Education (DOE) and students in the MS and ES categories are considered to have met the standards required by the state DOE. The CRTs are developed and administered under the direction of the DOE. In addition, a school must have at least 95% of all students enrolled at the time of testing participate in the testing process.

Finally, student behavior data collected from the school district student information systems was summarized to provide insight related to behavior problems at each school for the year prior to SWPBS implementation. Numbers of office discipline referrals (ODRs), out of school suspensions, and in-school suspensions, along with the rates based on total student enrollment were discussed below. The five most frequent behavior problems for each school are discussed.

David Elementary School. David Elementary School is a multi-track, year-round school that opened in 2002. Multi-track schools have different tracks (groups) of students start the school year, end the school year, and take vacations at different times. The principal assumed leadership of the school in the 2007-2008 school year. The school is located in a geographic area with newer housing; families with middle to upper income dominate the zoned area; however, some families live in Section 8 apartments (i.e., private owned government subsidized housing).

In the 2007-2008 school year, David Elementary had 772 students enrolled. During that year the school recorded 144 office discipline referrals (ODRs), six out-of-school suspension days (OSS), and one in-house suspension day (ISS). The rates for ISS and OSS were calculated by using the total number of suspension days for a given year divided by the student enrollment for that year and then multiplied by 100 to yield a percentage score. The OSS rate was .78% and the ISS rate was .12%. Similarly, the ODR rate was calculated by dividing total number of ODRs by the number of students and multiplying by 100; this calculation provided a number per 100 students. The ODR rate for David was 18.7 referrals per 100 students. The five highest frequency behavior problems reported as the percentage of total number of ODRs were disobedience/insubordination (31 ODRs; 21.5% of total referrals), inappropriate behavior (31; 21.5%), battery (22; 15.3%), inappropriate language (12; 8.3%), and disregard for school rules (8; 5.5%).

During the 2008-2009 school year, David Elementary School had 814 students. Of these students, 13.3% had an individualized education plan (IEP), 10.6% were identified limited English proficient (LEP), and 25.9% qualified for free/reduced lunch

(FRL). White students comprised 61.8% of the population; Hispanic students, 17%; Asian/Pacific Islander students, 13%; Black students, 5.7%; and American Indian/Alaskan Native, 2.6%. Average daily attendance was 96%. In the 2008-2009 school year David Elementary was classified as having demonstrated AYP and had every year since the 2005-2006 school-year.

Stefan Elementary School. Stefan Elementary School is a single-track, year-round school that opened in 1957. Students enrolled in single-track schools all attend school and have vacations during the same time periods. A principal assumed leadership of the school in the 2006-2007 school year and remained at the school during the implementation of SWPBS; however, she left the district prior to the initiation of this study. A new principal assumed leadership of the building during the 2010-2011 school year at the time the study was conducted; however, he was not included in the study because he lacked knowledge of factors associated with the implementation of SWPBS at Stefan.

Stefan is a Title 1 school located in an urban area, surrounded by low income housing as well as commercial and industrial businesses. Title 1 of the Elementary and Secondary Education Act of 1965 provides additional funding to schools that have a high percentage of students from low-income families. In the district where the study was conducted, the criteria to be designated as Title 1 was based on the percentage of students who qualify for free or reduced lunch.

In the 2007-2008 school year, Stefan Elementary had 590 students enrolled. During that year 193 ODRs, 86 OSS days, and eight ISS days were recorded. The OSS rate was 14.58% and the ISS rate was 1.35%. The ODR rate for Stefan was 32.7 referrals

per 100 students. The five highest frequency behavior problems reported as the percentage of total number of ODRs were inappropriate behavior (104 ODRs; 53.9% of total referrals), fighting (28; 14.5%), bullying (27; 14%), larceny (8; 4.1%), and insubordination (5; 2.6%).

During the 2008-2009 school year Stefan Elementary had 576 students. Of these students, 8.5 % had an IEP, 80.4% were LEP, and 100% qualified for FRL. White students comprised 7.3 % of the population; Hispanic students, 87.5%; Asian/Pacific Islander students, 2.3%; Black students 1.7%; and American Indian/Alaskan Native, 1.2%. The average daily attendance was 94.9%. In the 2008-2009 school year Stefan Elementary did not make AYP and had not made AYP dating back to district records from the 2003-2004 school year.

Carter Elementary School. Carter Elementary School opened in 1964 and operates on a traditional school calendar (i.e., approximately nine months). The principal assumed leadership of the school in the 2008-2009 school year. Carter is located in a rural/suburban area with families living primarily in low and middle income housing.

In the 2007-2008 school year, Carter Elementary had 765 students enrolled. During that year 104 ODRs, 81 OSS days, and six ISS days were recorded. The OSS rate was 10.59% and the ISS rate was .78%. The ODR rate for Carter was 13.6 referrals per 100 students. The five highest frequency behavior problems reported as the percentage of total number of ODRs were fighting (17 ODRs; 16.3% of total referrals), battery (16; 15.4%), disturbance of school (13; 12.5%), insubordination (11; 10.6%), and assault (9; 8.7%).

During the 2008-2009 school year Carter Elementary had 729 students. Of these students, 15.9 % had an IEP, 20.2% were LEP, and 47.3% qualified for FRL. White students comprised 58.6 % of the population; Hispanic students, 32%; Asian/Pacific Islander students, 3.7%; Black students 2.5%; and American Indian/Alaskan Native, 3.3%. The average daily attendance was 95.2%. In the 2008-2009 school year Carter Elementary did not make AYP and had not made AYP since the 2006-2007 school year.

Boyd Elementary School. Boyd Elementary School opened in 1911 and operates on a traditional school calendar. The principal assumed leadership of the school in the 2000-2001 school year. Boyd is located in an urban area with families living in low and middle income housing.

In the 2007-2008 school year, Boyd Elementary had 283 students enrolled. During that year 340 ODRs, 34 OSS days, and four ISS days were recorded. The OSS rate is was 12.02% and the ISS rate was 1.18%. The ODR rate for Boyd was 120.1 referrals per 100 students. The five highest frequency behavior problems reported as the percentage of total number of ODRs were disregard for school rules (120 ODRs; 35.3% of total referrals), inappropriate behavior (91; 26.8%), insubordination (82; 24.1%), inappropriate language (12; 3.5%), and bus citation (11; 3.2%).

During the 2008-2009 school year Boyd Elementary had 293 students; therefore, it is much smaller than the other schools in the study. Of these students, 16.7 % had an IEP, 23.2% were LEP, and 57% qualified for FRL. White students comprised 52.9 % of the population; Hispanic students, 30.7%; Asian/Pacific Islander students, 9.6%; Black students 5.1%; and American Indian/Alaskan Native, 1.7%. The average daily attendance

was 95.6%. In the 2008-2009 school year Boyd Elementary was classified as having made AYP but had not made AYP in the school year prior.

The study schools had wide ranging ODR and OSS rates in the 2007-2008 school year (see table 2). By far, Boyd had the highest ODR rate (120.1), while having a moderate OSS rate (10.59%) as compared to the other schools. David had a moderate ODR rate (18.7) while having a very low OSS rate (.78%) as compared to the other schools. Each of the schools had similar ISS rates, ranging from .78% to 1.35%.

Table 2

2007-2008 Discipline Referral Data for Study Schools

	# Students	Total ODRs	OSS days	ISS days	OSS rate	ISS rate	ODR rate
David	772	144	6	1	0.78%	0.12%	18.7
Stefan	590	193	86	8	14.58%	1.35%	32.7
Carter	765	104	81	6	10.59%	.78%	13.6
Boyd	283	340	34	4	12.02%	1.18%	120.1

Note: ODR rate is number per 100 students.

Perceptions held for the reasons the schools implemented SWPBS

At each of the schools except Stefan, four staff members were interviewed to gather data about the reasons that school chose to implement SWPBS. The principal, counselor, and two teachers were interviewed. At Stefan, only the counselor and teachers were interviewed. For the context section, the interview questions that related specifically to the reasons for implementing SWPBS were considered. The interviews started with the following question: I know that your school decided to adopt the SWPBS model.

- What lead up to that decision?
- What was the situation prior to adoption?

- How did you understand SWPBS when you first heard about it?
- Who was involved in the decision to adopt the model?

David Elementary School. Interviews suggested that the decision to adopt SWPBS at David Elementary was based upon three factors. First, the staff and principal believed student behaviors needed to improve and that SWPBS would help. Second, there were issues associated with inconsistent application of rules to student behaviors. Finally, the data suggested that implementation was based on a previous principal directed decision with the hope that SWPBS would increase student achievement.

In response to the question about what factors led up to the decision to adopt the SWPBS model, one teacher at David illustrated the need to have a cohesive school plan in place for managing student behavior. The teacher noted that prior to SWPBS implementation:

We used a much different system for behaviors, for managing behaviors. We had a, we used citations and we kind of... called on administration to help us if things got bad. It was weak in that there wasn't a lot of clarity on when to give a citation, for example, or there wasn't a ton of, I guess clarity is the word, but..., we were all kind of in our own rooms kind of doing our own thing that worked for us behavior-wise. There was not a cohesive school plan in place for discipline as well as for positive reinforcement.

She also stated that the decision to adopt SWPBS “was driven largely by our former principal... she was the main person involved in the decision to adopt the model.”

Another teacher at David emphasized that the model was adopted because “student behaviors were just becoming more noticeable, a higher volume, more escalated

misbehaviors, not as easily controlled with the things what we've been doing." She also acknowledged that the principal and school district leaders played major roles in the decision to adopt SWPBS. She stated that her decision was "because of district things and because of the principal we had at the time, but also I think just because we had noticed increases in types of behaviors and incidences of behaviors."

In response to the questions about factors that led up to the decision to adopt the model and who was involved in the decision the counselor stated:

The principal, to all those questions. She [the principal] heard about it.... in fact, I don't really think we were invited to that first pilot. To be part of the first pilot and I think she worked the school into that first pilot program.

This statement illustrates the perceptions of the counselor who believed that the school was not initially invited to be a SWPBS pilot school in the district; however, the principal was able to get the school included in the pilot study. This interview suggested that the principal had taken the initiative to approach district leaders and requested training and resources to enable the school to be a pilot school.

The principal at David at the time of data collection noted that some students' behaviors required improvement in order to help them increase their academic achievement. The principal expressed a concern about the lack of a systematic approach to management of student behaviors and achievement. The principal stated:

There wasn't a sense of being unified, the same rules for everyone...so the need to set up the expectations when you walk through the doors was really needed. It was also really needed in the development of RTI for academics because it's the academic and behavioral side of things.... So there was a real need to be able to

look at the whole child regardless of whether it was academic or behavior things that were presenting blocks to them being able to access the educational program.

The principal also stated, “this was a school that struggled with some extreme discipline issues.” The staff interviews suggested that SWPBS was implemented at David Elementary because of concerns about student behaviors as well as a principal directed decision based on the belief that student behaviors and student achievement were linked.

Stefan Elementary School. Staff interviews suggested that the decision to adopt SWPBS at Stefan Elementary may have been based upon two factors. First, one teacher discussed a need for a whole-school discipline system to improve student behaviors. Second, each of the staff members felt that it was a decision that was directed by the principal and/or her superiors.

In regards to the decision to adopt SWPBS at the school, one of the teachers stated:

I think she [the principal] was directed to go ahead and do this [SWPBS] from, you know, her superiors...her supervisor told her that, you know what, this school has a fair amount of discipline issues, let's go ahead and try this model.

In responding to the same question, another of the teachers said:

We needed a whole school program...where we were all kind of on the same page and everyone rewarded or disciplined that same... so that's the reason we did it and then we were told we had to was a big part of it.

When asked who told you that “you had to”, the teacher added, “it was our school psych and our old principal; she was the one that really did. She wanted a whole-school curriculum.”

In response to the adoption question, the counselor stated, “there were a lot of programs being offered at our school and they wanted to take on as many of those projects as they could.” When asked specifically who was involved in the decision to adopt the PBS model at the school, the counselor responded, “I believe it was our assistant principal and principal.” It should be noted that three counselors worked at the school over the study time period. This particular counselor worked at the school during the 2008-2009 school year, the first year of implementation of SWPBS.

Carter Elementary School. Staff interviews suggested that the decision to adopt SWPBS at Carter Elementary may have been based upon two factors. First, the staff believed that student behaviors needed to improve. Second, data suggested that the principal was familiar with the SWPBS model and was aware that the district was piloting the model in some schools, so she asked district leaders if Carter Elementary could be a pilot school.

The principal at Carter was new to the school in 2008 when SWPBS was first implemented. She responded to the question about the factors that led up to the decision to implement SWPBS by stating:

It was a great time because the school was transitioning with a new administrator which was myself and... I sat down with all the staff members and I asked them what... was something that we can improve on school-wide for all the kids and overwhelmingly...they felt that we needed at this school was very much structure

on the behaviors, the discipline, a program or assistance with that positive reinforcement. So, at that time, I knew that this district was adopting and having pilot schools adopt the School-wide PBS and I asked and asked and asked if we could be a part of that.

The counselor responded to the same question saying that, “they [the administration] gave the whole staff a survey to determine...what is it that they want to improve upon and they all said, the majority said behaviors....That’s how we came about adopting PBS.” When asked specifically who was involved in the decision to adopt the model, the counselor said, “the school, the staff, I would say.”

When asked about the decision to adopt the model, both teachers at Carter referenced student behavior problems. One teacher, stated, “Well, we had a lot of behavior issues, a lot of suspensions.” The other teacher responded:

We had a lot of behavior problems when I first started, especially with the upper grade kids. There was lots of bullying and fights and just negative attitudes I think, in general, so the way I understood it was they were going to implement a more positive focus on avoiding behaviors in the first place, like a more proactive approach instead of reacting to the behaviors after they happened.

When asked who was involved in the decision to adopt the model one teacher said, “I believe it was our administration,” while the other teacher responded, “I have no idea.”

Boyd Elementary School. According to the staff interviews, the decision to adopt SWPBS was based primarily on two factors. First, staff members attended a brief overview training and believed that SWPBS would improve student behaviors, thus they suggested to the principal that they move forward and attend the multi-day training to

begin SWPBS implementation. Second, the teachers interviewed believed that the principal liked to be innovative and wanted to be at the forefront of programs that may help with student success.

When asked what led to the decision to adopt SWPBS, the principal at Boyd Elementary said:

The number one concern was discipline when I started at the school. That did improve throughout the years, but it felt like discipline was more of a punishment for us and I still was spending a fair amount of time with disciplining students rather than as an instructional leader. I actually had some staff members who had heard about PBS and were very interested in pursuing the training, so I have to give that team credit because they really were the people who pushed me. They were able to attend an early training at the end of the previous school year and came back pretty excited and wanted to implement. So, based upon their motivation and interest, we went ahead with the team training.

The counselor responded to the same question by stating:

Intervention Assistance Team members attended a training that was taught a couple of years ago and, in that training, we all looked at each other and said, 'We want to implement School-wide PBS at our school.' ...The big reason was because it was new and exciting research, not necessarily because we had a huge number of students who were acting out necessarily, but we just like being innovative.

Both teachers interviewed indicated that the principal liked being at the forefront anything new. One teacher responded, "It was something that was going to be all over the district and we were just one of the first ones to adopt it. Our principal...wanted to be the

first one on board with things.” The other teacher responded, “our administrator...was very proactive in anything new coming out...she was always investigating things and pushing the school towards anything she thought would be beneficial.”

Input

The input evaluation asked the question, how should the needs of the organization be met? The input evaluation examined what the program plans to do. The input evaluation assesses the program strategy and design (Stufflebeam, 2003). To determine the inputs of SWPBS implementation, the following questions were investigated:

1. What training was provided to the staff at each school?
2. What resources (financial and human) were provided to each school?

These two questions were asked in the staff members interviews at each school. In this section, interview results identifying the training and resources that were provided to schools appear to be identical, thus this section is presented without school divisions.

Training and Resources Provided to Schools

Each school received a uniform training program that was provided by district personnel and outside experts. A team from each school participated in a two-day Tier 1, or primary prevention, workshop near the end of June during summer break prior to the 2008-2009 school year. School teams consisted of the counselor, an administrator, and teacher grade level representatives for a total of seven or eight staff members from each school. The teachers who were not under contract at the time were paid \$30/hour to attend the training and volunteered to be on the team. During this training school teams learned the components of Tier 1 implementation and were provided planning time to develop implementation/action plans. The primary components of Tier 1 implementation

that were taught, with planning time provided, included: developing expectations and rules, developing a system for teaching appropriate behavior, developing a school-wide reward system, effective discipline procedures, implementation of SWPBS, and evaluation and problem solving.

In response to the question regarding the training provided, the principal at Boyd Elementary responded:

I think we did like a two-day training, and our psychologist and all the experts came in and they gave us everything we needed to know and then we made these really, really detailed lesson plans... like how do you literally go to the bathroom, wash your hands, get paper towels and things like that.

The counselor at David Elementary discussed developing expectations and rules at this training; they “developed a matrix of school expectations.” This matrix consisted of identified appropriate student behavior expectations in each area of the school. The principal noted that during this summer training “the model was put forward... and we had to sit down and set our basic matrix of what were our expectations.” The principal at Carter Elementary also spoke about the summer Tier 1 training:

We developed a committee of teachers, one teacher from each grade level plus a special ed and ESL, administration, and counselors...and we all went as a team to the Tier 1 PBS training during the summer and then we took that information to start our implementation steps throughout the school year.

The principal at David Elementary also recalled that the district, “did provide significant training...about once per month.” These monthly coaching trainings were approximately two hours and involved one or two leaders of each school SWPBS team.

These trainings occurred during the school day and were usually attended by the counselor and/or a school administrator. These trainings were refresher/problem solving trainings designed to help schools stay on track for successful implementation. The principal at Carter Elementary spoke of on-going training/coaching:

We did have external supports from the district, external coaches that helped schools with the implementation process and we also went to follow-up trainings that the district provided for the first year and then the Tier 2 training we went to the following year.

Following the Tier 1 training each school team trained their staff during a professional development day prior to the first day of the school year. A teacher at David Elementary recalled:

Our training was provided during professional development, the whole staff. Basically, we were just introduced to what we call our (expectations) Matrix, which is an organizer, basically, a grid of what is expected. And, it gives us... what behavior is expected of in different parts of the school.

These initial, whole-school teacher trainings were designed to provide the foundation for initial implementation.

One of the teachers at Carter Elementary said that she “remembers having like a staff meeting of about that we were going to start implementing PBS. They talked about how the office referral form would change and the biggest change I remember was the (reward tickets).” A teacher at Boyd Elementary recalled having, “a lot of professional development, a lot. We had a PBS team who would run those meetings... so there was a

lot of training that was necessary because we had to be on the same page for this to work.”

Another teacher at David Elementary spoke about additional staff training to establish agreement and buy-in from the staff:

We had training at staff meeting, and there was a team that was put together, a PBS team...that would talk about how did we want it to be presented at our school, how did we want to build it so to speak. And, so the team would work together to try to get something, a starting area, and then they would present that to the staff and then the staff would say ‘Well, what about this’ ...and then the team would go back and we did that back and forth numerous times and worked out the kinks.

One of the teachers at David Elementary also referenced a website in regard to training:

All of the teachers and staff...were asked to do a refresher course online.... There’s a Florida website that we were asked to go to and they have modules they called them for different pieces of PBS. So we were asked...to do these refresher modules on the internet as a grade level PLC.

In addition to training/coaching resources, each school was provided financial support to help pay for student incentives. A teacher from Carter Elementary in response to the question about other resources responded, “we did get some money that was used for prizes...I want to say it was like \$1000.” The principal at David Elementary said that, “the financial resources were really minimal. I think we got \$300.” A teacher from Boyd Elementary also noted that, “there was money provided for incentives.”

Process

The process evaluation asks the question, what is the level of the fidelity of the implementation? This evaluation monitors, documents, and assesses the programs activities (Stufflebeam, 2003). To determine the inputs of SWPBS implementation, the following questions were investigated:

1. What was level of fidelity of implementation of SWPBS?
2. How did the school implement SWPBS?

The SWPBS fidelity instruments (SET and BoQ) provided a guide of the expected implementation of system procedures and processes. Therefore, these instruments were used to assess the degree of actual implementation of SWPBS at each school. However, data was not uniformly available from all schools due to inconsistencies in data collection. Data from the SET and BoQ instruments were only available for Carter, Boyd, and David elementary schools. At David, SET data was only available for the 2009/2010 school year, while no BoQ data exists. At Carter, BoQ and SET data was available for the 2009/2010 School year only. At Boyd, SET data was available for all three years of the study (2007/2008, 2008/2009, and 2009/2010). Staff interviews provided the data needed to investigate how the school implemented SWPBS.

David Elementary

One teacher at David Elementary referenced the key implementation component of common student expectations. She said, “our training was provided during professional development, the whole staff. Basically, we were just introduced to our (expectations) matrix, which is an organizer...of what’s expected.” In her interview, the principal also noted how the common expectations were established by stating:

We had to sit down and set our basic matrix of what were our expectations and then we had to roll that out to the staff, was there anything they felt that did not fit, that they could not enforce, they didn't believe, have all those conversations. Based on these two interview responses, it seems that the staff at David Elementary had established common student behavior expectations.

A teacher at David explained the process of how the students were taught and re-taught the school-wide expectations in assemblies by stating:

She (principal) had an assembly where it (the expectations) was kind of implemented in a student-friendly way as far as they're respectful, responsible, safe. They'd put their hands up and they'd clap them together and the kids really liked that hands piece to it, and then she went over the (expectations) matrix of what's expected in each part of the school and what does it look like to be respectful, responsible and to be safe in those places. And, I think for a while she did kind of a refresher assembly with each grade.

The principal also recalled that we "rolled out a set of classroom lessons that the teachers would teach... we did assemblies for the kids...then we did classroom lessons at target aspects of the [expectations] matrix." Teaching and re-teaching the expectations to the students is a critical component of SWPBS.

Two other critical components of SWPBS implementation that were identified were positive reinforcement of student behaviors that meet the expectations and data collection related to student misbehaviors. One teacher referenced that the staff at David reinforced positive student behaviors by having "pads [of positive reinforcement sheets]... that kind of helped all of the staff to get on board focusing on the positive."

Another teacher noted the behavior tracking system, “I know it’s called SWIS.... and, that was something our school counselor was kind of handling for us, so I’m not really clear on how all that data is looked at,” the teacher explained. Positively reinforcing expected student behaviors and monitoring student misbehaviors for action planning our necessary actions for successful SWPBS implementation.

Having a school PBS team in place was another identified key component for implementation fidelity. This team is responsible for ensuring implementation fidelity. A teacher and principal both spoke about the importance of the school team for implementation at David. The teacher noted:

The team would work together to try to get...a starting area, and then they would present that to the staff and then they staff would say ‘Well, what about this’...and the team would go back and forth numerous times and worked out the kinks.

The principal acknowledged “that the PBS team drove the whole thing. I think that’s really an essential piece to it.” These statements seem to make clear the importance of the PBS team in the implementation at David.

SET data was collected at David for the 2009/2010 school-year. The final score from that data was 94.8% out of a possible 100%. Scores of 80% or higher suggest that the school is implementing Tier 1 with fidelity.

Stefan Elementary

In response to the questions about training and implementation, one teacher said: We didn’t get a lot of training and we didn’t get a lot of resources. It was, ‘this is what you will do,’ kind of an overview with some slides.... And we kind of had follow-up training, but it was more, ‘These teachers have passed out the most

(reward) tickets and these teachers haven't passed out any' and it was kind of like a punishment system for us...and that's how they pretty much gave us resources. In response to the follow-up question of who provided the training, the teacher said, "it was the counselor, the school psychologist. The principal or vice principal really just kind of sat in the back with her arms crossed." Finally, in response to the question about how training and resources have changed, the teacher responded, "They really haven't had a lot (of training)."

When discussing the school PBS committee and data collected on student misbehaviors, the other teacher said:

I never really figured out what was going on where and who was doing what. But, again it never brought us to fruition where we can take this data, have a school-wide plan about what to do with the information.

When responding about a training, the teacher also said:

The instructor said, 'the biggest thing if you want PBS to work is to have administrative buy-in' and I was there with three or four other people from the committee and we looked around and there was no one administrating from our school represented.

In reference to giving recognition to students with appropriate behaviors, the teacher said, "the positive reinforcement kind of went by the wayside and we went back to using the model of just using consequences." She continued, stating, "I really have not seen the PBS model take off in any positive direction other than the consequences of major and minor (misbehaviors)."

The counselor echoed many of the statements of the teachers. When talking about the school progressing to more advanced levels of implementation, he said, “we were not allowed to go to tier two trainings because we were not getting the administration support.” The counselor also discussed teacher buy in:

We had a 50% buy-in and it was working very well. They (teachers) saw the effects working when we had a ticket system.... but, from the other half, you work get dissension. So those were my two big struggles, the teacher buy-in from a certain half and administrator buy-in from the other half.

Staff interviews from Stefan Elementary indicate that many critical components to successful implementation were absent. One of those components was administrator buy-in. Staff buy-in also seemed to have been a struggle. In addition, the interviews indicated that an effective system for rewarding students was not established and maintained.

Carter Elementary

In responding to the question about how School-wide Positive Behavior Support was implemented, one teacher responded:

I just remember having a staff meeting kind of about that we were going to start implementing PBS. They talked about how the office referral forms would change and the biggest change I remember was the (reward tickets).

The teacher also spoke about the PBS team by stating:

They started the PBS team which was one teacher from each grade level that would go to a meeting once a week to get training and... talk about our kids, see what was improving, what we still needed to work on and then that teacher from your grade level comes back and reports to the whole grade level team.

Responses from this teacher indicated that there was an initial staff training as well as an established PBS team at the school.

The other teacher interviewed also discussed the PBS team as well as training.

She said:

(The PBS team) come back and train us...show us how to do things at our staff meetings. We talk about it and we also had a checklist a couple years ago. How many (reward tickets) were you handing out? So there was accountability too of what we were working on.

The teacher also spoke about how discipline data was shared with staff:

They would show us...like quarterly, at our staff meetings, they'll show us how our referrals have gone up or what are we working on or when do we see these problems, taking about re-teaching and making sure that we're following through.

This teacher also talked about the school expanding PBS to include the school buses and increased accountability for staff:

We've shared them with the buses now, so we try to just keep, you know, wherever our kids are, we try to put the positive out there.... I think the first year it was just more talk and, the second year, we added on like how we were doing it making sure that everybody was following through.

In speaking about PBS implementation, this teacher referenced the PBS team, student behavior data analysis, expanding PBS, and staff accountability.

The counselor also talked about the PBS team:

We (the PBS team) meet weekly...so we've kept that up which I think has really kept up our communication between teachers, between grade levels. We have a

representative from each grade level which goes back to their teachers and their grade and they share information.

The counselor also referenced communicating student behavior data:

At our staff meetings once a month, we share our SWIS data, so our whole staff knows what's going on just in case there was a kind of breakdown between teachers and their grade level.

The principal also spoke about the PBS team and her long-term intentions with the team:

I keep some members on the (PBS) committee that I feel are a good foundation or that that area is their strength to help communicate to the other teachers in the grade level, but I also try to build capacity within the school and the grade levels by switching those members up.

The principal also referenced rewarding students by stating that, "everybody's recognizing all of the students all of the time, not just in your classrooms."

Staff interviews from Carter Elementary indicate that several key components for successful SWPBS implementation were present. The specific components include an established PBS team, reward system in place, and student behavior data communication the staff. There was no indication from the staff interviews that any components needed for successful implementation were missing.

Implementation data was available for the 2009/2010 school year. This data includes results from both the SET and BoQ. The SET score was 96.4% while the BoQ score was 89 out of a possible 100. Both of these scores indicate that Carter Elementary was implementing PBS with fidelity.

Boyd Elementary

A teacher at Boyd referenced making lesson plans to teach and communicate behavior expectations; she said:

We made these really, really detailed lesson plans and we did it together, like how do you literally go to the bathroom, wash your hands, get paper towels and things like that... and we all taught it the first week of school.

Another teacher at Boyd referenced the PBS team when asked about the implementation of PBS. She said, “For the first two years, we had a lot of professional development, a lot. It was just like PBS meeting, PBS meeting. We had a PBS team who would run those meetings.”

The teacher also spoke about rewarding positive student behaviors and having common student behavior expectations. She said:

The idea was to focus on the good behaviors and motivate kids to make good choices and doing that with (reward tickets) and just re-teaching, re-teaching, having a school-wide plan so that every child at every place in the school knew what every teacher expected.

The counselor also referenced teaching the behavior expectations to the students. She said:

The first week of school, we had a staff training and introduced them to PBS and discussed the matrix and immediately what we did was break the teachers up by grade level and had them decide what kind of lessons we would be teaching the students so they understood the three behaviors, the three “B”s: how to be responsible, respectful and safe.

The principal also spoke about the PBS team and training. She said, “the district provided the trainings...so that we were able to implement, process what was happening....and bring that training directly to our staff.

Staff interviews from Boyd Elementary indicated that several key components for successful SWPBS implementation were present. The specific components include an established PBS team, reward system in place, and student behavior expectations were taught. There was no indication from the staff interviews that any components needed for successful implementation were missing.

Implementation fidelity data was available from Boyd Elementary for all three years of the study. SET data was available for all three years of the study. In the 2007/2008 school-year the SET score was 53. This indicates that SWPBS was not implemented with fidelity during that year. This is to be expected as the school did not begin implementing SWPBS until the following year. In the 2008/2009, the school scored an 81 and in 2009/2010 scored 98.3. Both of these years the scores indicate that SWPBS was implemented with fidelity.

Product

The product evaluation asks the question, did it succeed? This evaluation determined the extent to which program goals have been achieved (Gall et al., 1996). The product evaluation should measure, interpret, and judge a program’s achievements, and outcomes from the program (Stufflebeam, 2003). Concerning SWPBS in this study, the product evaluation answered the questions of what happened with student behavior, and student achievement.

Product questions:

1. Did student behaviors change after implementation of SWPBS?
2. Did student academic achievement change after implementation of SWPBS?

The data collection for the product evaluation focused on changes in achievement and discipline referrals. The achievement data collected were adequate yearly progress (AYP) data from the Nevada Report Card which reports on English/ Language Arts (ELA) and math achievement for the 3rd and 5th grades. Specifically, this evaluation reports the percentage of students who scored in the meets or exceed proficiency ranges of the ELA and math state criterion references tests over the evaluation period. Student behavior data was derived from student discipline referral data collected from district student information system (SASI) and the School-wide Information System (SWIS). Student behavior data are reported for each school for each year as delineated above in the Context section. In addition, student behavior data are reported for each school from the SWIS Year End Report when available. Data from this report include referrals per year per 100 students and percent of total referrals by problem behavior for the highest three behavior problems. These data sources enable the researcher to describe student behavior and academic achievement over the 3-year period.

Implementation data was available only for Carter and Boyd Elementary schools. At Carter, BoQ and SET data was available for the 2009/2010 school-year only. At Boyd Elementary, BoQ data was available for the 2008/2009 school year only, while SET data was available for the 2007/2008 through the 2009/2010 school years. Due to the limited availability of implementation data, line graphs describing the relation between student discipline referral data and implementation data are only available for Boyd Elementary.

Figure 2. Behavior and Implementation Data Availability Figure

School	Behavior Data	Implementation Data
David	SWIS data complete (08/09, 09/10); All referral and suspension data (07/08, 08/09, 09/10)	SET (09/10)
Carter	SWIS data complete (08/09, 09/10); All referral and suspension data (07/08, 08/09, 09/10)	BoQ (09/10), SET (09/10)
Stefan	All referral and suspension data (07/08, 08/09, 09/10)	
Boyd	SWIS data complete (08/09, 09/10); All referral and suspension data (07/08, 08/09, 09/10)	SET (07/08, 08/09, 09/10)

David Elementary

Over the evaluation period, the CRT pass rate percentages generally increased while office discipline referral rate (ODR) decreased (see tables 3 and 4). From the 2007/2008 to the 2008/2009 school years CRT pass rate scores decreased in both math and ELA for both the 3rd and 5th grades (see table 3). However, the CRT pass rate scores in 2009/2010 in both math and ELA for both the 3rd and 5th grades were higher than the rate for the 2007/2008 and 2008/2009 school years.

Table 3

CRT Pass Rates for David Elementary

	2007/2008		2008/2009		2009/2010	
	Math	ELA	Math	ELA	Math	ELA
5th grade	75.5%	60.7%	65.2%	59.7%	84.4%	68.8%
3rd grade	58.8%	73.2%	50.5%	67.5%	78.1%	70.4%

Two sample t-tests between percentages of pass rates for math CRTs and ELA CRTs for both grade levels across the three years were calculated; that is 2007/2008 results were compared to 2008/2009 results and to 2009/2010 results. In addition,

2008/2009 results were compared to 2009/2010 results. As a result, three comparisons were conducted for math CRTs and three comparisons were conducted for ELA CRTs. Only two comparisons were found to be significant at the .05 alpha level. From the 2008/2009 to the 2009/2010 school year math scores increased significantly for 3rd grade, $t(257)=3.27$, $p<.01$, as well as for 5th grade, $t(236)=3.36$, $p<.01$. The results of the comparisons are summarized in table 4.

Table 4

Two Sample t-tests Between Percentages of Pass Rates for David Elementary

	Math Year 1 Compared to Year 2	Math Year 2 Compared to Year 3	Math Year 1 Compared to Year 3	ELA Year 1 Compared to Year 2	ELA Year 2 Compared to Year 3	ELA Year 1 Compared to Year 3
5 th Grade	$t(222)=1.65$ $p=.10$	$t(236)=3.36$, $p<.01$	$t(202)=1.59$, $p=.11$	$t(222)=.15$, $p=.88$	$t(236)=1.46$, $p=.15$	$t(202)=1.21$, $p=.23$
3 rd Grade	$t(213)=1.22$, $P=.23$	$t(257)=3.27$, $p<.01$	$t(238)=.47$, $p=.64$	$t(213)=.91$ $p=.36$	$t(257)=.50$, $p=.62$	$t(238)=.47$, $p=.64$

In this same period the ODR rate (as collected in SASI) increased from 18.7 ODRs/100 students to 24.2 ODRs/100 students (see table 5). From the 2008/2009 to the 2009/2010 school years CRT pass rate scores I ncreased in both math and ELA for both the 3rd and 5th grades. In this same period the ODR rate decreased by 8.3 ODRs/100 students. Changes in in-school (ISS) and out of school (OSS) suspension rates were not meaningful due to the very small numbers of both ISS and OSS rates in all years.

Table 5

SASI Discipline Referral Data for David Elementary

	# Students	Total ODRs	OSS days	ISS days	OSS rate	ISS rate	ODR rate
2007/2008	772	144	6	1	0.78%	0.12%	18.7
2008/2009	814	197	4	7	0.49%	0.86%	24.2
2009/2010	747	119	12	4	1.61%	0.54%	15.9

Table 6 provides information on ODRs (as collected in SWIS) by rate per 100 students as well as the top five problem behaviors by percentage of total referrals. The office discipline referral rate decreased from 2008/2009 to 2009/2010 by 3.2 ODRs/100 students. Physical contact is differentiated from physical aggression in that physical aggression is of greater intensity that may result or results in injury. Most notably, the differences in the behavior problems from the two years is a large increase in the more serious physical aggression as a percentage of referrals in the 2009/2010 school year as compared with the year prior.

Table 6

SWIS Discipline Referral Data for David Elementary

David	# Students	Total ODRs	ODR Rate	Beh prob1	Beh prob2	Beh prob3	Beh prob4	Beh prob5
2008/2009	814	187	23	21.4% PC	17.1% DS/I	16.6% PA	9.1% H	8.6% DS
2009/2010	747	148	19.8	44.6% PA	8.1% H	8.1% DS/I	6.8% PC	6.8% T

Legend: DR/I= Disrespect/insubordination; DS=Disruption; PA=Physical Aggression; PC=Physical Contact; H=Harassment; L=Language; T=Theft

Over the three years of the evaluation, the top five problems behaviors shifted. In 2007/2008 the top five behavior problems, as reported in SASI, were disobedience/insubordination (31 ODRs and 21.5% of total referrals), inappropriate behavior (31; 21.5%), battery (22; 15.3%), inappropriate language (12; 8.3%), and disregard for school rules (8; 5.5%). In 2008/2009 the top five behavior problems were inappropriate behavior (70; 35.5%), disregard for school rules (23; 11.7%), bullying (21; 10.7%), assault (13; 6.6%), and harassment (12; 6.1%). In 2009/2010 the top five shifted to assault (29; 24.4%), inappropriate behavior (25; 21%), violence against another student (17; 14.3%), larceny/theft (9; 7.6%), and violence against staff (8, 6.7%). It is interesting to note that the top five behavior problems in 2008/2009 as reported in SASI did not indicate that student violence was a problem; however the top behavior problems as recorded in SWIS indicated that 38% of the discipline referrals were either physical contact or physical aggression.

Table 7

SASI Problem Behavior Discipline Referral Data for David Elementary

David	# students	total ODRs	ODR rate	Beh prob1	Beh prob2	Beh prob3	Beh prob4	Beh Prob5
2007/2008	772	144	18.7	21.5% DS/I	21.5% IB	15.3% BAT	8.3% L	5.5% DS
2008/2009	814	187	24.2	35.5% IB	11.7% DS	10.7% B	6.6% A	6.1% H
2009/2010	747	148	15.9	24.4% A	21% IB	14.3% V-STUD	7.6% T	6.7% V-STF

Legend: A=Assault; BAT= Battery; B=Bullying; BUS= Bus Citation; DR= Disregarding School Rules; DS=Disturbance of School; F=Fight; I=Insubordination; IB= Inappropriate Behavior; L=Language; T=Theft TD= Tardy; V-STF=Violence to Staff; V-STUD=Violence toward another Student

All staff interviews at David indicated that student behavior improved at the school over the evaluation period. The principal noted that, “the climate became much

more positive.” She also added that “students want to behave. They are not looking to see what they can get away with because they want the attention for having done the right thing.” The counselor highlighted a story about a new third grade student who had many behavior problems at his previous school who said, “I like it here so much because people are not always telling me ‘Don’t do this’, and ‘Don’t do that.’” The counselor added that this particular student did not have behavior issues when he came to David Elementary.

Teacher interviews at David also reflected student behavior improvements due to implementation of SWPBS. One teacher stated that, “for the vast majority of students, it (SWPBS) works and behaviors have changed for the positive.” Another teacher noted “that the positive piece has definitely helped student behavior,” She also added that, “as a whole it’s been great for student behavior. I think it’s changed [the climate] positively overall.”

The only implementation fidelity data available for David was the School-Wide Evaluation Tool (SET) in the 2009/2010 school year. The score was 94.8 (out of 100), indicating that SWPBS was implemented with fidelity during that year. In that year ODR rate decreased from the year prior. Criterion Reference Test Pass Rate percentages increased that year from the year prior. Staff interviews also indicated that student behavior had improved over the evaluation period.

Stefan Elementary

Over the evaluation period, CRT pass rate percentages generally increased (table 8) while ODR rate decreased (Table 8) according to data recorded in SWIS. From the 2007/2008 to the 2008/2009 school years CRT pass rates increased in ELA for both 3rd and 5th grades. For the same years, math pass rates decreased considerably for 5th grade

and remained relatively constant for 3rd grade. In the 2009/2010 school year, both math and ELA pass rates were higher in both 3rd and 5th grades than in the previous two years.

Table 8

CRT Pass Rates for Stefan Elementary

	2007/2008		2008/2009		2009/2010	
	Math	ELA	Math	ELA	Math	ELA
5th grade	45.3%	18.8%	27.4%	26.1%	63.3%	39.7%
3rd grade	39.2%	24.0%	41.4%	28.6%	73.1%	39.7%

Two sample t-tests between percentages revealed that the 5th grade math CRT pass rate decreased significantly from the 2007/2008 to the 2008/2009 school year, $t(135)=2.18$, $p=.03$. From the 2008/2009 to the 2009/2010 school year, math pass rates increased significantly in both 3rd ($t(146)=3.90$, $p<.01$) and 5th ($t(139)=4.28$, $p<.01$) grades. In comparing the 2007/2008 to the 2009/2010 school years, ELA pass rates also increased for both 3rd ($t(155)=2.11$, $p=.04$) and 5th ($t(130)=2.30$, $p<.01$) grades.

Table 9

Two Samples t-test Between Percentages of Pass Rates for Stefan Elementary

	Math Year 1 Compared to Year 2	Math Year 2 Compared to Year 3	Math Year 1 Compared to Year 3	ELA Year 1 Compared to Year 2	ELA Year 2 Compared to Year 3	ELA Year 1 Compared to Year 3
5 th Grade	$t(135)=2.18$, $p=.03$	$t(139)=4.28$, $p<.01$	$t(130)=2.08$, $p=0.03$	$t(135)=1.02$, $p=.31$	$t(139)=1.7$ 2, $p=.08$	$t(130)=2.30$, $p<.01$
3 rd Grade	$t(147)=0.27$, $p=.78$	$t(146)=3.90$, $p<.01$	$t(155)=4.28$, $p<.01$	$t(147)=0.64$, $p=.52$	$t(146)=1.4$ 2, $p=.15$	$t(155)=2.11$, $p=.03$

Over the course of the evaluation the ODR rate (as collected in SASI) decreased over the three year period from 32.7 ODRs/100 students to 19.5 ODR/100 students (see table 10). The out of school suspension rate also decreased over the three year period. Changes in the in-school suspension rate are not meaningful.

Table 10

SASI Discipline Referral Data for Stefan Elementary

	# Students	Total ODRs	OSS days	ISS days	OSS rate	ISS rate	ODR rate
2007/2008	590	193	86	8	14.58%	1.35%	32.7
2008/2009	576	176	75	2	13.02%	0.35%	30.6
2009/2010	524	102	37	2	7.06%	0.38%	19.5

Table 11 provides information on ODRs (as collected in SWIS) by rate per 100 students as well as the top 5 problem behaviors by percentage of total referrals. From the 2008/2009 school year, ODR rate increased from 50.5 ODRs/100 students to 66.1 ODRs/100 students. Interestingly, the order of the top five behavior problems stayed consistent each year although the actual percentages vary slightly.

Table 11

SWIS Discipline Referral Data for Stefan Elementary

Stefan	# Students	Total ODRs	ODR Rate	Beh prob1	Beh prob2	Beh prob3	Beh prob4	Beh prob5
2008/2009	576	291	50.5	24.4% DS	22.9% PC	15.5% DR	12.9% L	6.3% Other
2009/2010	524	346	66.1	23.8% DS	16.5% PC	13.0% DR	9% L	8.7% Other

Legend: DR= Disrespect; DS=Disruption; PA=Physical Aggression; PC=Physical Contact; H=Harassment; L=Language; I=Insubordination; T=Theft

Over the three years of the evaluation, the top five problems behaviors remained relatively constant. Inappropriate behavior was the most frequently recorded discipline referral across all three year and fighting was the second most recorded referral in the first and last years of the evaluation. Theft and bus citation referrals were in the four most frequently recorded referrals in each of the three years.

Table 12

SASI Problem Behavior Discipline Referral Data for Stefan Elementary

Stefan	# Students	Total ODRs	ODR rate	Beh prob1	Beh prob2	Beh prob3	Beh prob4	Beh Prob5
2007/2008	590	193	32.7	53.9% IB	14.5% F	14.0% B	4.1% T	2.6% I
2008/2009	576	176	13.6	63.1% IB	8.0% T	6.8% B	5.7% F	4.0% L
2009/2010	524	102	120.1	52.9% IB	17.6% F	12.7% B	2.9% T	2.9% DS

Legend: A=Assault; BAT= Battery; B=Bullying; BUS= Bus Citation; DR= Disregarding School Rules; DS=Disturbance of School; F=Fight; I=Insubordination; IB= Inappropriate Behavior; T=Theft

Staff interviews at Stefan indicated mixed opinions on whether there were changes in student behavior as a result of SWPBS implementation. When asked about if student and teacher behaviors had changed, on teacher said:

I think student behaviors changed because the students still have the buy-in that every once in while they could get a ticket.... So, the students... had that early buy-in. Teachers really never got informed of anything other than the amount of tickets provided, were never really told from SWIS if anything had really changed, but the kids still thought that they were getting these tickets, so if 5th

grade was only giving X amount of tickets, then maybe 6th grade wasn't and they would just kind of flail.

The same teacher also indicated that the reward tickets stopped being distributed because the staff did not know if student behaviors were changing. He said, "We didn't know what the outcome was with all these tickets, ultimately they could stop being distributed by both primary and upper [grade teachers]." Another teacher said:

We don't do the tickets anymore, so that's one thing that's changed. The school climate, since we've had the gate up, it's changed a lot. I don't know if that's related to PBS, but the gates up and surrounding all the school where we're all enclosed now...so we don't have as many of the behaviors we had before, so that's positive, but I don't think we're giving them much positive reinforcement as we should be.

The counselor talked about how PBS was effective in changing student behaviors when there was staff buy-in. He said:

We had a 50% buy-in and it was working very well. They [teachers] saw the effects working when we had a ticket system, which I was in charge of collecting that data and I have some amazing data on that....From the other half, you would get the dissension. So, in my opinion, PBS needs to work with 100% buy-in and, if it doesn't have that, it's not going to be as successful as it could be.

Carter Elementary

Over the evaluation period, the CRT pass rate percentages generally increased while ODR rates also increased greatly over the course of the evaluation (see tables 13

and 15). Math CRT pass rate percentages increased for both 3rd and 5th grades across each year of the evaluation.

Table 13

CRT Pass Rates for Carter Elementary

	2007/2008		2008/2009		2009/2010	
	Math	ELA	Math	ELA	Math	ELA
5th grade	43.8%	32.4%	49.1%	34.9%	75.0%	63.0%
3rd grade	51.4%	54.3%	53.7%	50.9%	59.3%	64.2%

Two sample t-tests between percentages for math across each year and grade level were calculated; two were found to be significant at the .01 alpha level. The 5th grade math CRT pass rate increase was significant when years two and three, ($t(205)=3.79$, $p<.01$), and years one and three, ($t(195)=4.43$, $p<.01$) were compared. The percentage pass rate for ELA increased in both grade levels across all years with one exception. From year one to year two the 3rd grade pass rate percentage dropped from 54.3% to 50.9%, but the rate rose to 64.2% in the final year of the study. Two sample t-tests between percentages for ELA across each year and grade level were calculated; two were found to be significant at the .01 alpha level. The 5th grade math CRT pass rate increase was significant when years two and three, ($t(205)=4.02$, $p<.01$), and years one and three, ($t(195)=4.29$, $p<.01$) were compared.

Table 14

Two Samples t-test Between Percentages of Pass Rates for Carter Elementary

	Math Year 1 Compared to Year 2	Math Year 2 Compared to Year 3	Math Year 1 Compared to Year 3	ELA Year 1 Compared to Year 2	ELA Year 2 Compared to Year 3	ELA Year 1 Compared to Year 3
5 th Grade	t(218)=-.79, p=.43	t(205)=3.79, p<.01	t(195)=4.43, p<.01	t(218)=-.39, p=.69	t(205)=4.02, p<.01	t(195)=4.29, p<.01
3 rd Grade	t(215)=-.34, p=.73	t(189)=.77, p=.44	t(186)=1.08, p=.28	t(215)=-.50, p=.62	t(189)=1.83, p=.06	t(186)=1.36, p=.17

Over the duration of the study the ODR rate (as recorded in SASI) increased from 13.6 ODRs/100 students in year one to 26.3 ODRs/100 students in year two to 93.4 ODRs/100 students in year three (see table 15). The out of school suspension rates decreased from the first to the second year, but increased from the second to the third year. The in-school suspension rate stayed about the same from the first year to the second year, but increase greatly in the third year.

Table 15

SASI Discipline Referral Data for Carter Elementary

	# Students	Total ODRs	OSS days	ISS days	OSS rate	ISS rate	ODR rate
2007/2008	765	104	81	6	10.59%	0.78%	13.6
2008/2009	729	192	16	7	2.19%	0.96%	26.3
2009/2010	678	633	47	56	6.93%	8.26%	93.4

Table 16 provides information on ODRs (as collected in SWIS) by rate per 100 students as well as the top 5 problem behaviors by percentage of total referrals. The office discipline referral rate increased from 11.1 ODRs/100 students to 121.8 ODRs/100 students from year two to year three of the evaluation. The specific problem behaviors

remained relatively constant with disrespect being the highest referred in year one and disruption being the third highest referred. These two behaviors switched positions in year two, while physical aggression was the second most referred behavior in both years.

Table 16

SWIS Discipline Referral Data for Carter Elementary

	# Students	Total ODRs	ODR Rate	Beh prob1	Beh prob2	Beh prob3	Beh prob4	Beh prob5
2008/2009	729	81	11.1	22.2% DS	17.3% PA	16.0% DR	7.4% PC	6.2% L
2009/2010	678	826	121.8	31.7% DR	16.8% PA	13.6% DS	12.2% PC	5.2% H

Legend: DR= Disrespect; DS=Disruption; PA=Physical Aggression; PC=Physical Contact; H=Harassment; L=Language; I=Insubordination; T=Theft

According to the data recorded in SASI over the three years of the evaluation, the top five problems behaviors shifted. In the 2007/2008 school year the two most frequent behavior problems were battery and fighting. In the following school year battery was the fourth most frequent behavior problem, and in the final year neither fighting nor battery was in the five most frequent behavior problems. Although the ODR rate increased greatly over the course of the evaluation, student violence decreased.

Table 17

SASI Problem Behavior Discipline Referral Data for Carter Elementary

	# Students	Total ODRs	ODR rate	Beh prob1	Beh prob2	Beh prob3	Beh prob4	Beh Prob5
2007/2008	765	104	13.6	16.3% F	15.4% BAT	12.5% DS	10.6% I	8.7% A
2008/2009	729	192	26.3	14.1% L	13.5% I	12.0% BUS	8.9% F	7.3% DR
2009/2010	678	633	93.4	33.3% IB	23.7% I	7.9% BUS	5.5% TD	4.6% L

Legend: A=Assault; BAT= Battery; B=Bullying; BUS= Bus Citation; DR= Disregarding School Rules; DS=Disturbance of School; F=Fight; I=Insubordination; IB= Inappropriate Behavior; L=Language; T=Theft TD= Tardy

Staff interviews indicated a consistent belief that the climate was more positive and student behavior problems decreased since the implementation of SWPBS. One teacher said:

It's [the climate] just more positive. Students look for ways to get attention...in a positive way...they know that they can get attention for positive behaviors instead of just negative ones.... So, the kids are aware of each other's positive behavior as well, and I think it's helped teachers focus more on those positives and not just be so reactive to the negative things.

Another teacher said, "I think it's just a lot happier.... We have Peace Pals too, students who are helping out in the school yard, like older kids will watch our kids. They [students] have more ownership and... like I said, it's happy and more positive."

The counselor and the principal echo the sentiments of the teachers. The counselor said, "I think it's [SWPBS] really helped our school culture become more positive. We're more proactive than reactive. We have a lot less students in the office for discipline." The principal said:

This school's climate has changed and I would say doing at least a 360 degree turnaround in a positive direction because everything is focused on children first and what we can do as a professional that care for children in a positive manner first and... we've made adequate yearly progress the last two years and that has been since we've implemented the PBS system also.... They're [students] much more respectful then I noticed prior to PBS just to adults, and to each other. Our office discipline referrals have decreased significantly school-wide.

Implementation fidelity data was available only for the 2009/2010 school year. Both the Benchmarks of Quality (BoQ) and School-wide Evaluation Tool (SET) were conducted in that year. Scores of 89 on the BoQ and 96.4 (out of 100 in each case) indicated that SWPBS was implemented with fidelity during that year. In that year the CRT pass rate percentages increased as did the ODR rate. Despite the increase in ODR rate, staff interviews indicated a more positive climate and decrease in student behavior problems.

Boyd Elementary

Over the evaluation period, the CRT pass rate percentages generally increased while office discipline referral rate (ODR) increased from year one to year two and then decreased to the lowest level in year three (see tables 18 and 20). From the 2007/2008 to the 2008/2009 school years CRT pass rate percentages generally increased. The 5th grade class in the 2008/2009 school year was an anomaly and had 100% pass rate in math and 89.3% pass rate in ELA. A follow up email with the principal confirmed these pass rates.

Table 18

CRT Pass Rates for Boyd Elementary

	2007/2008		2008/2009		2009/2010	
	Math	ELA	Math	ELA	Math	ELA
5th grade	44.4%	37.0%	100%	89.3%	68.0%	65.9%
3rd grade	52.5%	47.5%	61.1%	52.8%	63.7%	60.6%

Two sample t-tests between percentages for math and ELA CRT pass rates for both grade levels across each of the three years were calculated. The pass rate increase for the 5th grader was found to be significant at .05 alpha level in both math and ELA.

From year one to year two, the increase in math CRT pass rate was significant, (t(53)=4.63, $p<.01$); as was the decrease from year two to year three, (t(73)=3.35, $p<.01$).

The math CRT pass rate increase from year one two three was also significant, (t(72)=1.99, $p=.05$). This same trend occurred in the ELA pass rate percentages. The year one to year two increase was significant, (t(53)=4.03, $p<.01$), as was the increase from year one to year three, (t(72)=2.41, $p<.05$). The decrease in pass rate was significant from year one to year three, (t(73)=2.25, $p<.05$).

Table 19

Two Samples t-test Between Percentages of Pass Rates for Boyd Elementary

	Math Year 1 Compared to Year 2	Math Year 2 Compared to Year 3	Math Year 1 Compared to Year 3	ELA Year 1 Compared to Year 2	ELA Year 2 Compared to Year 3	ELA Year 1 Compared to Year 3
5 th Grade	t(53)=4.63, p<.01	t(73)=3.35, p<.01	t(72)=1.99, p=.05	t(53)=4.03, p<.01	t(73)=2.25, p=.03	t(72)=2.41, p=.02
3 rd Grade	t(74)=.75, p=0.45	t(67)=.22, p=.82	t(71)=.96, p=.34	t(74)=.46, p=.65	t(67)=.65, p=.52	t(71)=1.11, p=.27

In this same period the ODR rate increased in the second year before falling to three year lows in the final year of the evaluation (as collected in SASI). The ODR rate increased from 120.0 ODRs/100 students to 183.3 ODRs/100 students and then decreased to 37.9 ODRs/100 students in the 2009/2010 school year (see table 20). The out of school suspension rate followed the same trend, while the in-school suspension rate followed a similar trend, but had about the same rate in the first and third years of the evaluation.

Table 20

SASI Discipline Referral Data for Boyd Elementary

	# Students	Total ODRs	OSS days	ISS days	OSS rate	ISS rate	ODR rate
2007/2008	283	340	34	4	12.02%	1.18%	120.1
2008/2009	293	537	60	20	20.48%	6.83%	183.3
2009/2010	282	107	8	5	2.84%	1.77%	37.9

The ODR rate (as collected in SWIS) fell from the second to the third year of the evaluation while the specific problem behaviors remained relatively constant. The ODR rate fell from 177.8 ODRs/100 students in the 2008/2009 school year to 136.9 ODRs in the 2009/2010 school year. The five most frequent behavior problems were consistent except for physical aggression was the second most frequent and physical contact the third in the 2008/2009 school year, and their positions reversed in the following year.

Table 21

SWIS Discipline Referral Data for Boyd Elementary

	# Students	Total ODRs	ODR Rate	Beh prob1	Beh prob2	Beh prob3	Beh prob4	Beh prob5
2008/2009	293	521	177.8	35.5% DS	14.8% PA	13.6% PC	9.2% DS	5.6% Other
2009/2010	282	386	136.9	22.8% DS	16.3% PC	10.4% PA	9.6% DS	8.3% Other

Legend: DR= Disrespect; DS=Disruption; PA=Physical Aggression; PC=Physical Contact; H=Harassment; L=Language; I=Insubordination; T=Theft

Over the three years of the evaluation, the top five behavior problems were consistent in the first two years (as collected in SASI) but shifted in the third year (table 22). In the first two years, four of the top five behavior problems were: disregard for

school rules, inappropriate behavior, insubordination, and bus citation. In year three, two of the top five behavior problems were battery and fighting. Because of the large decrease in referrals from the second to the third years, it is possible that although these violent behaviors occurred at a higher percentage compared to the other behaviors, the actual number of incidents could have been about the same.

Table 22

SASI Problem Behavior Discipline Referral Data for Boyd Elementary

Boyd	# Students	Total ODRs	ODR rate	Beh prob1	Beh prob2	Beh prob3	Beh prob4	Beh Prob5
2007/2008	283	340	120.1	35.3% DR	26.8% IB	24.1% I	11.2% DR	3.2% BUS
2008/2009	293	537	183.3	41.5% DR	22.0% IB	13.4% I	8.4% L	4.1% BUS
2009/2010	282	107	37.9	22.4% I	17.8% BAT	12.1% F	11.2% DR	10.7% DS

Legend: A=Assault; BAT= Battery; B=Bullying; BUS= Bus Citation; DR= Disregarding School Rules; DS=Disturbance of School; F=Fight; I=Insubordination; IB= Inappropriate Behavior; L=Language; T=Theft TD= Tardy

Staff interviews indicated that the climate improved and student behavior problems decreased after the implementation of SWPBS. One teacher said, “The hallways are usually quieter. Our lunch room is quieter usually. The kids know what is expected.” Another teacher said:

The kids are positively motivated.... I just look at the kids and sometimes I just have to say, ‘Could you please show me our three ‘B’s’ which would be ‘be respectful, be responsible, be safe’ and at any grade level...they know what I’m

talking about and it's nice to have them respond to something so simple. It gives them responsibility too without having to get all grumpy at kids.

The counselor and the principal agreed with the teachers when they discussed the school climate after the implementation of SWPBS. The counselor said:

One area of change is that the principal had stated that in fact she had less referrals to the office for behavior, so she was spending less time on behavior referrals. Another thing that has changed is that I spoke to parents as well as students who came back the next year and they thought the biggest change was that they felt safer at the school in that it was just a more positive environment so that if they had issues or problems they felt like they not only had someone to go to for an adult, but they were also capable amongst themselves to resolve problems.... And with regard to staff, on thing they said was that it was cohesive in that no matter where their students were in the building, they were getting the same message from adults.

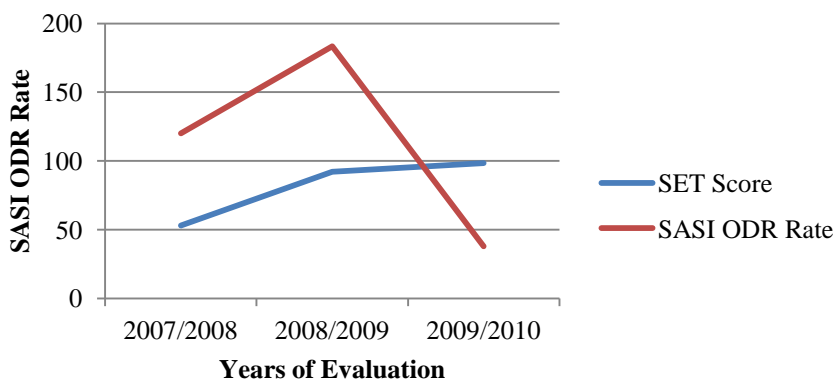
The principal stated:

The climate has changed in that there is a very clear expectation for all students and staff members about how we act at [the school].... Students became more responsible and more accountable for their own behavior and actually started to not only were they self-managing, but also helping other students by either recognizing and even praising students.... The climate was calm, very focused on academic achievement, test scores improved during those years.... Teacher behaviors I think also changed in that we held ourselves to the same expectations as students and I believe there was less negativity and negative teacher talk in the

lounge about students or about teachers that it really became a problem-solving atmosphere.

Implementation fidelity data was available from the SET for all three years of the evaluation. The SET data scores for three years were 53, 92, and 98 respectively. Scores of 80 or higher indicate implementation with fidelity. When comparing the implementation fidelity data with the ODR rate, the ODR rate increased as did the implementation fidelity (figure 3) from year one to year two. From year two to year three the implementation fidelity increased further and the ODR rate decreased.

Figure 3. SASI Implementation Fidelity



CHAPTER FIVE

DISCUSSION AND CONCLUSIONS

This chapter presents a summary of the evaluation, along with the conclusions, recommendations, and implications of the study. This chapter is divided into the following major sections: summary of purpose, summary of findings, discussion, conclusion, recommendations for further study, and implications.

Summary of Purpose

The purpose of this evaluation was to examine the implementation and impacts of the SWPBS system. The evaluation of a program can only be valid if the level of implementation of the program is considered. Without considering implementation fidelity of SWPBS, outcome measures are more difficult to determine. Therefore, the evaluation included an analysis of the fidelity of implementation. Analysis of the fidelity of implementation of SWPBS, student behaviors, and student achievement provided

useful information for both researchers and education practitioners. The following evaluation questions were used:

Context:

1. Why did the school implement SWPBS?
2. What student behavior problems were present at the beginning of the study?
3. What were the levels of student behavior problems within each school the year prior to SWPBS implementation?

Input:

4. What training was provided to the staff at each school?
5. What resources (financial and human) were provided to each school?

Process:

6. What was the level of fidelity of implementation of SWPBS?
7. How did the school implement SWPBS?

Product

8. Did student behaviors change after implementation of SWPBS?
9. Did student academic achievement change after implementation of SWPBS?

Summary of Findings

Data gathered and analyzed were used to support findings for each of the nine research questions. Data from each source, as discussed in the method section, were combined to develop a summary for each question. The findings in this section were divided by evaluation question. Some questions were combined for the purposes of clarity and ease of understanding.

Question 1: Why did the school implement SWPBS?

At each of the four schools, interviews suggested that the primary reason for implementing SWPBS was because there were student behavior problems present and there was a need for a cohesive plan to improve student behaviors. At David and Stefan, the decision to adopt SWPBS seemed to be driven primarily by the principal. Conversely, interviews suggested that at Carter and Boyd the decision to adopt SWPBS was driven primarily by teachers.

Questions 2 and 3: What student behavior problems were present at the beginning of the study and at what levels?

The five most frequent behavior problems from each school included disobedience/insubordination, inappropriate behavior, battery, inappropriate language, disregard for school rules, fighting, bullying, larceny/theft, disturbance of school, and bus citations. Battery or fighting was one of the top three documented behavior problems for each of the schools except for Boyd. Boyd did not have battery nor fighting as one of the five most frequent behavior problems.

The levels of problem behaviors as described by office discipline referral (ODR) rate as well as both in-school (ISS) and out of school suspension (OSS) rates varied widely in the first year of the evaluation. The ODR rate ranged from 13.6 ODRs/100 students at Carter to 120.1 ODRs/100 students at Boyd. The ISS suspension rate ranged from .12% at David to 1.35% at Stefan. The OSS suspension rate ranged from .78% at David to 14.58% at Stefan.

Questions 4 and 5: What training and resources were provided to the staff at each school?

Each school received a uniform training program that was provided by district personnel and outside experts. Each school sent a team to a two-day Tier 1, or primary prevention, workshop near the end of June during summer break prior to the 2008-2009 school year. School teams consisted of the counselor, an administrator, and teacher grade level representatives for a total of seven or eight staff members from each school. The teachers who were not under contract at the time were paid \$30/hour to attend the training and volunteered to be on the school SWPBS team. During this training school teams learned the components of Tier 1 implementation and were provided planning time to develop implementation/action plans. The primary components of Tier 1 implementation that were taught and planning time was provided, included: developing expectations and rules, developing a system for teaching appropriate behavior, developing a school-wide reward system, effective discipline procedures, implementation of SWPBS, and evaluation and problem solving. Each school team then trained each of their teaching staffs during a professional development day before the beginning of the 2007/2008 school year.

The school district also provided monthly trainings. These monthly coaching trainings were approximately two hours and involved one or two leaders of each school SWPBS team. These trainings occurred during the school day and were usually attended by the counselor and/or a school administrator. These trainings were refresher/problem solving trainings designed to help schools stay on track for successful implementation.

In addition to training/coaching resources, each school was provided financial support. Staff interviews revealed that financial support was provided in the range of

\$300 to \$1000. Staff members from the schools reported that this money was provided to purchase student incentives.

Questions 6 and 7: What was the level of fidelity of implementation of SWPBS and how did the schools implement SWPBS?

Implementation fidelity assessment instruments were used by each of the schools except for Stefan in the 2009/2010 school year. These instruments indicated that the schools were implementing SWPBS with fidelity at this time. Only Boyd had implementation fidelity data available in earlier years. In 2007/2008 (the year prior to implementation), the School-wide Evaluation Tool (SET) indicated that SWPBS was not implemented with fidelity in that year. However, the following year, the SET indicated that SWPBS was implemented with fidelity at Boyd.

Although fidelity assessment results were not available from Stefan, staff interviews indicated that SWPBS was likely not implemented with fidelity. Staff interviews from Stefan Elementary indicated that many critical components to successful implementation were absent. One of those components is administrator buy-in. Staff buy-in also seems to have been a struggle. In addition, the interviews also indicated that an effective system for rewarding students at Stefan was not established and maintained.

Although each of the four schools implemented SWPBS with some variation, Carter, David, and Boyd each implemented with fidelity. The basic, critical features of SWPBS, as outlined in Chapter 2 were found to be in place in these three schools according to staff interviews and available fidelity assessment instruments. Stefan did not have fidelity instrumentation data and staff interviews indicated that several critical components of implementation were absent.

Question 8: Did student behaviors change after SWPBS implementation?

According to data gathered from the Schools Administrative Information System (SASI) and the School Wide Information System (SWIS) at each school office discipline referral trends were mixed. At three of the schools the ODR rate was lower in year three than in year one of the evaluation, with Carter as the exception. David, Carter, and Boyd had increases in ODR rates from year one to year two. Although Carter had a large increase in ODR rate over the course of the evaluation, suspension rates decreased, indicating that the increase in ODRs may be due to changes in discipline referral documentation rather than actual increases in student behavior problems. At Stefan, SASI data indicated a decrease in ODRs from year one to year three, while SWIS indicated an increase in ODRs in these same years. Both in-school and out of school suspension rates either remained low or decreased over the three years of the evaluation with Carter as an exception. Suspension rates at Carter decreased from year one to year two then increased dramatically from year two to year three. Staff interviews do not provide data aligned with this trend, but indicated that the student behaviors improved.

Staff interviews at David, Carter, and Boyd indicated that student behavior problems decreased after the implementation of SWPBS. This provided more evidence that the increase in the ODR rate may have been a function of changes in documentation of student behaviors, rather than actual increased student behavior problems. Staff interviews at Stefan were mixed as to whether student behaviors improved after and as a result of SWPBS implementation; however, it must be noted that the program does not appear to have been implemented with fidelity at Stefan.

Question 9: Did student academic achievement change after SWPBS implementation?

Math and ELA CRT pass rates for both 5th and 3rd grades were higher for all schools in year 3 of the evaluation than in year one, almost without exception. The only exception was that at David the 3rd grade ELA pass rate was 73.2% in year 1 and 70.4% in year 3. This decrease was not found to be significant.

Discussion

This evaluation analyzed the context, inputs, processes, and products of SWPBS implementation in four elementary schools. From the analysis of the evaluation several conclusions may be drawn. First, school staffs need buy-in and support from an administrator who will serve as a champion of implementation to give the program a chance to succeed. Second, when SWPBS schools implemented with fidelity, student behaviors and student achievement may improve. Finally, schools that implement SWPBS with fidelity may be able to achieve second-order change.

Administrative Support

Sugai, Horner, Lewis-Palmer, and Todd (2005) recommended that at least one administrator lead a team that is committed to the implementation of SWPBS. Obtaining administrative support was identified as one of the six critical areas that can serve as a facilitator of SWPBS implementation when present and a barrier when absent (Kincaid, Childs, Blasé, & Wallace, 2007). The results of this investigation are consistent with the current literature and indicate that a lack of administrative support appeared to be related to failure to implement SWPBS with fidelity.

The analysis of the data from the staff interviews at Stefan indicated that the school did not have an administrator who was committed to the implementation of SWPBS. Teachers and the counselor illustrated the lack of commitment of a building level administrator to SWPBS. Indeed, one teacher noted that when she was in a SWPBS training and learned that “the biggest thing if you want PBS to work is to have administrative buy-in’ and I was there with three other people from the [SWPBS] committee and there was no one administrating from our school.” In addition, data indicated that SWPBS was not implemented with fidelity. Although the data indicated a relationship between a lack of administrative support and fidelity of implementation at Stefan, this does not indicate a causal relationship. However, as pointed out above, this finding is consistent with the research of others. It therefore follows, that any increases in student achievement or decreases in student behavior problems were likely because of other causes.

Reduction of Student Problem Behaviors and Increased Academic Achievement

A growing body of research supports the effectiveness of SWPBS in reducing student problem behaviors (Bazelon, 2006; Bradshaw, Mitchell, & Leaf, 2010; Horner, Sugai, Eber, & Lewandowski, 2004). Putnam, Horner, and Algozzine (2006) indicated that SWPBS implementation reduced the amount of student problem behaviors and may be useful in improving student academic achievement. Several other studies support the effectiveness of SWPBS in increasing student achievement (Horner et al., 2009; Lassen, Steele, & Sailor, 2006). The data from this evaluation confirmed these findings.

The schools that implemented SWPBS with fidelity generally had reductions in office discipline referral (ODR) rates as well as suspension rates. Carter was the only

school that had an increase in ODR rate, but staff interviews indicated that there was a reduction in student problem behaviors and an overall more positive school climate. David had a negligible increase in the out of school suspension rate. However the suspension rate started and remained the lowest of the four schools.

In addition to the reduction of student problem behaviors in the schools that implemented SWPBS with fidelity, there was improvement in student achievement, as measured by the state Criterion Reference Tests given in math and English Language Arts in the third and fifth grades. Two sample t-tests between percentages for math and ELA CRT pass rates for 3rd and 5th grades across each of the three years indicated that pass rates increased significantly for both grade levels and subjects at several schools. There were no significant decreases in CRT pass rates in any subject comparing the first and third years of the evaluation.

Conclusion

The cognitive approach to organizational change is a neo-institutionalist movement that focuses on isomorphism and strategic choice that looks at cognitive processes in transforming organizations (Demers, 2007). Demers (2007) focused on the deconstruction and reconstruction of cognitive processes and mental representations necessary for change. Unframing and reframing in the organizational change requires a change in the way knowledge is processed, perceived, and interpreted. Bartunek (1984) distinguished between first-order change, which is a modification of the existing interpretive scheme, and second-order change, which is the adoption of a new frame of reference. For example, a first order change would work to make the existing system

more efficient, while a second order change would be associated with the implementation of a new system that was more effective and/or more efficient. The reframing that is needed for second order change is rare and difficult to achieve (Gersick, 1991). At a school, second-order change would require new learning that would enable teachers to view the organization differently; as a result, it would be almost impossible to go back to the way things were before the change. In such schools, a new system would evolve.

When analyzing staff interviews, data emerged from the schools that implemented SWPBS with fidelity that suggests examples of second-order change. These schools had a new system, which was more effective and more efficient, a second order change. Staff interviews revealed that teachers' perceptions suggested that changes had occurred in both student behaviors and teacher behaviors. Overall, the climate became more positive at these schools. Interviews indicated that students enjoyed being at school more, sought more positive ways to get attention, exhibited increased positive motivation, became more aware of other students positive behaviors and were better able to manage their own behaviors. Students also felt more capable to resolve their own problems without adult intervention and older students took responsibility for looking after younger students.

At the same time, interviews indicated that teachers become more proactive, began to teach appropriate student behaviors, and to provide positive rewards. Interviews also revealed that more students were able to self-manage their behavior. There was also less negative teacher talk and a positive problem solving culture had developed. The major shift in thinking changed from 'how do we fix the kids' to "what can we do to support the students to help them behave appropriately."

Implications for Practice

When educators are considering SWPBS implementation, there are several recommendations that should be considered based upon the findings of this evaluation. Consideration of these recommendations should be useful for improving the likelihood of successful implementation that results in improved student behaviors and academic performance. Necessary conditions include the following:

- Ensure that student behaviors that should result in office discipline referrals be clearly named and defined; and
- Ensure that the school will have an administrator who will monitor and support the implementation before proceeding.

During the period of this evaluation when schools switched from using SASI to SWIS for the primary source of ODR information, it was not possible to align the ODRs that were recorded in SASI with those recorded the following years in SWIS. Office discipline referrals, as recorded in SASI, were not sufficiently descriptive or defined to allow for valid analysis and comparison. When student behavior problems are sufficiently descriptive and defined, analysis is possible that enables stakeholders to plan interventions when needed to reduce problem behaviors.

The data from this evaluation clearly demonstrates the impacts when a school does not have the support from an administrator in SWPBS implementation. When a school does not have support from an administrator for implementation of SWPBS, the likelihood of implementation with fidelity decreases. When SWPBS is not implemented with fidelity, the potential impacts on student behaviors decrease. Before the school district or a school uses resources for SWPBS implementation, strong administrator support should be present. Following this guideline will help ensure successful

implementation as well as help ensure that valuable capital and human resources are not underutilized.

Recommendation for Further Study

The findings of this evaluation contribute to understanding of the implementation and impacts of SWPBS. The results provided illustrations of both implementation with fidelity and implementation without fidelity. The process for implementing a new system is complicated, dynamic and often has unintended outcomes. To develop a better understanding of the implementation process and related impacts of SWPBS, practitioners and researchers must continue to explore the complexities of the interactions of level of implementation and outcomes. Based on the findings of this evaluation and the educational literature, the following suggestions for further research may be of benefit:

- This evaluation was conducted after SWPBS implementation and interviewees were asked to remember about the past and changes that occurred. A similar longitudinal evaluation would enable an evaluator to gather interview data at different points throughout the implementation process. This strategy may produce more detailed and reliable data across the course of the evaluation, potentially leading to more detailed or even different findings.
- Because this evaluation investigated only schools implementing SWPBS, it cannot be concluded that improvements in student behaviors and increases in student achievement can be attributed solely to SWPBS implementation. A larger scale, matched pairs study investigating the impacts of SWPBS on student behaviors and student achievement between schools that implement SWPBS and

those that do not may be useful in drawing stronger conclusions about the direct impacts, and degree of those impacts, of student behaviors and achievement.

- This evaluation revealed that one of the schools did not implement SWPBS with fidelity. Lack of administrator support appeared to be the primary reason for the failed implementation. It would be useful to investigate reasons why administrators either provide or do not provide sufficient support to SWPBS implementation. It would also be useful for school districts and school administrators to understand from an investigation what exactly ‘sufficient’ support entails.

APPENDIX A
INTERVIEW QUESTIONS

INTERVIEW QUESTIONS

1. Please describe your school as you might at a party or to someone not familiar with your school. (context)
 - a. Tell me a little bit about the students.
 - b. Tell me a little bit about the teachers.
 - c. Tell me a little bit about the staff.

2. I know that your school decided to adopt the SWPBS model. What lead up to that decision? (context)
 - a. What was the situation prior to adoption?
 - b. What factors contributed to the decision?
 - c. How did you understand SWPBS when you first heard about it?
 - d. Who was involved in the decision to adopt the model?

3. How was the SWPBS model initially implemented at your school? (input/process)
 - a. Training?
 - b. Other resources?

4. Has the training and other resources changed since SWPBS was initially implemented?
If so, please describe how. (input/process)
 - a. Who has been involved in the continued implementation of SWPBS?

5. Now that your school has implemented SWPBS for a period of 2 years, how has the school climate changed? (product)
 - a. How has student behavior changed?
 - b. How have the teachers' behaviors changed?

6. If you could change one thing about SWPBS, what would it be?

7. If you were to tell another principal about SWPBS, what would you tell him or her?

APPENDIX B
IRB PROTOCOL



University of Nevada, Reno

Office of Human Research Protection
 205 Ross Hall / 331, Reno, Nevada 89557
 775.327.2368 / 775.327.2369 fax
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Certification of Approval
Social Behavioral
Institutional Review Board

Date: April 6, 2011

To: William Thornton, PhD
 Department of Educational Leadership / 0283

CC: Chris McBride
 Department of Educational Leadership / 0283

UNR Protocol Number:	S10/11-090
Protocol Title:	A Summative Evaluation of School-Wide Positive Behavior Support in four Elementary Schools
Sponsor Protocol Number:	N/A
Sponsor:	None
VA Research:	No
UNR Assurance Number:	FWA00002306
IRB Number:	IRB00000216
Action Item:	New Protocol: Social Behavioral
Level of Review for Action:	Expedited
Expedited Category:	6 & 7
Review Period:	12 months
Final Approval Date:	April 6, 2011
IRB Action Date:	March 17, 2011
Expiration Date:	March 16, 2012

This approval is for:

Protocol application, as revised, 04/06/11
 Recruitment email/verbal script, as submitted, undated
 Consent form, as revised, 04/01/11
 Research instrument, interview guide, as submitted, undated

UNR IRB approval is granted subject to the following:

- Final approval from Washoe County School District must be provided to the IRB prior to study initiation.

PI responsibilities

- Continuing projects must be reviewed and approved prior to the expiration date.
- Proposed changes must be reviewed and approved by the IRB prior to initiation, except when necessary to eliminate apparent immediate hazards to subjects. Such exceptions must be reported to the IRB at once.
- Any unanticipated problems which may increase risks to human subjects or unanticipated adverse events must be reported to the IRB within 10 days of becoming aware of the issue.
- When the project has been completed, please submit a closure request 10 days after project completion to the IRB.

Please reference the protocol number above on all related correspondence with the IRB. If you have any questions, please contact Valerie Smith at 775.327.2368.

Chair, Vice-Chair, or OHRP Designee

Cert_exp

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