

**Phase II Final Report**  
**Systematic Supervision: DVD Elementary School Training**  
**2R44 MH067364-02A2**

**Beginning and ending period :** 5/01/07 to 4/30/10

**Key Personnel participating:**

<u>Name</u>	<u>Title</u>	<u>Hours</u>
Brion Marquez	Principal Investigator	
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**A. Phase II Project Overview and Objectives**

**Specific Aims**

Inappropriate student behaviors pose significant challenges for both students and school staff in all school environments where adult supervision and behavior support are difficult to provide, particularly in common-areas (playgrounds, hallways, cafeterias, etc.) and during classroom to classroom transitions. In addition, students report that bullying and harassment often occur in those areas and at those times. School personnel need shared and effective school-wide strategies to improve school climate and ensure that common areas and classrooms are managed in ways that allow all students to be safe and secure.

The specific aim of this project was to improve the safety and well-being of students and staff members in school common area and classroom environments. Our program, *Systematic Supervision: Being Safe, Responsible, and Respectful in School*, was designed to provide group and individual training and ongoing support for the development of active supervision and positive behavior support (PBIS) skills (moving, scanning, positive interactions) for staff, as well as providing effective and engaging instructional materials for students that describe behavioral expectations in common areas.

*Project Background: Phase I*

In Phase I of this project we applied widely-accepted principles of instructional design (Engelmann, 1969; Engelmann & Carnine, 1982) to the development of multimedia group-training program for school staff and students. This program, *Systematic Supervision: Creating A Safe and Positive Playground*, covers the basic techniques of playground supervision, positive interactions with students, team-based data analysis, and intervention planning for use on elementary school playgrounds (Lewis, Colvin, & Sugai, 2000; Oswald, Safran, & Johanson, in press; Sugai, 2007). A compatible behavioral expectation training was developed for students – the Telly award-winning *Play by the Rules*. The entire program was formatted for group

presentation and training on DVD. An evaluation of the program was conducted using direct observation of supervisory and student behaviors in four elementary schools. Results were promising: in all instances, after only one administration of the intervention, supervisors increased their overall use of the systematic supervision strategies (Smith, et. al, in submission). At the same time, an overall reduction in the rate of inappropriate student behavior was observed. The Systematic Supervision playground program has met with impressive consumer acceptance, resulting in sales of approximately 1,500 programs to trainers, school districts and others for providing training to over 10,000 schools in the U.S. The program has been translated into Norwegian and is mandated for use by all elementary schools in that country. In response to requests by school districts, and at its own expense, IRIS Media has developed an online, interactive version of the playground program. A staff training version of the program, Systematic Supervision: High School and Systematic Supervision: Middle School, were released in May 2006.

The *Systematic Supervision* module developed in Phase I, *Systematic Supervision: Creating a Safe and Positive Playground*, has become an important resource for schools in helping them manage playground behavior and implementing PBIS systems. PBIS has been long recognized as an effective strategy for teaching and establishing expected student behavior through acknowledging students for engaging in them, rather than attempting to control misbehavior exclusively with negative consequences (Sprague, & Walker, 2005).

## **B. Objectives**

In Phase II, we proposed expanding the training to all school common areas and conducting a rigorous evaluation of program effectiveness. The Phase II expansion: (a) included school staff member training on understanding and using positive behavior supports, (b) included training specific to supervising and managing student behavior in hallways, cafeterias, restrooms, buses, classroom transitions, and other common area settings and environments; (c) increased the program accessibility and flexibility of the training by delivering it via an Internet-enhanced system—eDVD—that allows for both group and individualized training using interactive Internet technology, and (d) developed behavior-expectation programs *for students* that complement the staff training modules; and (e) provided a format that promoted opportunities for the research-recommended multiple dose group and individual training.

Phase II was conducted with the collaboration and active participation of the West Contra Costa Unified School District (Richmond, CA), the Napa Valley Unified School District (Napa, CA), the Redding School District (Redding, CA), San Juan Unified School District (Carmichael, CA), the Mountain Empire Unified School District (Pine Valley, CA), the Des Moines Public Schools (Des Moines, IA), Cimarron Municipal Schools (Cimarron, NM) and the Folsom Cordova Unified School District (Folsom, CA)

### Phase II Evaluation Questions and Tasks

The program evaluation study for the project utilized focus group and key informant interviews, archival student discipline data, school staff member knowledge assessments, school staff member self-efficacy measures, student knowledge assessment, and program-specific measures to answer three core questions: First, does multimedia training of staff

members (and students) in systematic supervision result in an improved *school climate*? Second, does the training result in increased levels of staff member reported *self-efficacy* for maintaining order in the public areas of the school? And third, does the training result in improved and adequate *mastery of skills* concerning the supervision and behavioral strategies presented to staff? In order to answer these questions, the following tasks were completed:

1) Seven new training components were developed and delivered using an Internet-enhanced DVD format –eDVD,

2) Focus groups conducted using school professionals, parents, and students to ensure that program content would be compatible with the school environment and sensitive to the needs of diverse school communities, and

3) The Systematic Supervision program was evaluated using a wait-list control design with 36 schools randomly assigned to intervention or control conditions using measures that describe the school environment and the behavior of administrators, teachers and staff, and students.

### **C. Phase II: Significance**

Schools are in a position to intervene in the development of antisocial behaviors if they can develop and implement effective behavioral supports for students (Gottfredson, Gottfredson, & Hybl, 1993; J. Sprague, Sugai, & Walker, 1998; Walker, Ramsey, & Gresham, 2004). Substantial resources are used to provide behavioral supports for those individuals exhibiting chronic or severe problem behavior. While there is typically less attention paid to school-wide behavior support programs, these programs [school-wide supervision, behavior management, and positive behavior support (PBIS) interventions] can be highly effective with up to 80 to 90 percent of all students, including students who exhibiting chronic and severe problem behavior (Colvin, Sugai, Good, & Lee, 1997; Walker, et al., 2004).

#### School safety

The incidence of problem behaviors in schools, from minor misbehaviors to theft and violence, is a significant and continuous concern for schools and communities. Also of concern are well-documented connections between a) problem behavior during the school years and negative outcomes into adulthood; b) problem behavior and poor academic achievement, and negative academic impact on peers; and c) problem behavior and a negative and aversive school climate and culture (Battin-Pearson et al., 2000; Hawkins, Catalano, Kosterman, Abbott, & Hill, 1999; Sprague, & Walker, 2005).

There is also a profound and growing concern over decreased youth attachment to, and involvement in school and increased incidence of community violence and life-course persistent antisocial behavior. Growing awareness of the ever-present potential for violence at school has parents and educators examining the types and severity of students' problem behavioral patterns in schools. National statistics indicate a deterioration in school climate with students reporting fear of bullying and harassment and feeling unsafe. Children in middle and elementary schools are increasingly engaged in and/or witness to peer-to-peer violence while at school. Surveys of elementary and middle school students found that 96.1% of elementary school students and 95.6% of middle school students report witnessing multiple incidents of bullying and harassment at school in the previous 3 months. In the same surveys, 54% of

students (grades 6-8) reported they had witnessed one or more incidences of student-to-student physical violence in the previous 3 months. These students also reported being the victims of physical violence or assault (33%) and engaging in violence or physical assault as a perpetrator (24%). Some research indicates that about 20% of students feel afraid throughout much of the school day (Garrity & Jens, 1997). These student perceptions and experiences and the resulting 160,000 daily student absences (Colvin, Tobin, Beard, Hagan, & Sprague, 1998) have an unnecessarily deleterious effect on school engagement and academic achievement. They can also lead to more serious and potentially injurious problem behaviors (Walker, Ramsey, & Gresham, 2004).

#### School climate

To remedy these problems, substantial, sustainable improvements in school climate are necessary. Research indicates that schools can create resilient, engaged students, and establish clear expectations for learning and positive behavior by providing firm, fair discipline practices, and by providing students valued roles and meaningful responsibilities in the school (Sprague, & Golly, 2004). Effective schools have shared values regarding the school's mission and purpose; carry out multiple activities designed to promote pro-social behavior and connection to school traditions; and provide a caring, nurturing social climate involving collegial relationships among adults and students (Bryk & Driscoll, 1988). In addition to working toward improvement in school climate, a well-developed body of research evidence on school safety indicates that universal school-wide interventions need to be combined with interventions targeted to specific problems (D. Gottfredson, 2001) and school-wide prevention activities need to start early and be maintained (O'Donnell, Hawkins, Catalano, Abbott, & Day, 1995).

#### Improvements in safety and climate through school-wide supervision approaches

While high rates of problem behaviors are common on playgrounds, they also occur on a daily basis in other common school settings such as hallways, restrooms, cafeterias, and even classrooms (during lightly supervised, relatively unstructured activities) (Smith & Sprague, 2001), where effective strategies for addressing these problem behaviors are often lacking (Sprague & Walker, 2005; Walker et. al., 2004). Early onset, frequency, and chronicity of fairly typical, often minor, problem behaviors (e.g., arguing, rough play, use of hands on others, abusive language, hitting and kicking, and disregard of rules) have been identified as risk factors and associated with later development of adolescent and adult antisocial behavior (Kazdin, 1997; Patterson, Reid, & Dishion, 1992; Tobin & Sugai, 1999).

Lightly supervised common and transition areas have historically had the least emphasis placed on prevention and proactive intervention (Safran & Oswald, 2003). Often, professional development opportunities and specific training for those engaged in supervision and behavior management across all school settings areas are also lacking (Smith & Sprague, 2003). Supervision in common and transition areas typically lacks systematic supervision (predictable routines, clear behavioral expectations, and consistent, effective correction of misbehavior). In fact, without preventative and proactive behavior support designed to support appropriate behavior, most schools depend on the use of aversive consequences to manage problem behavior, such as office referrals, negative consequences (loss of privileges, extra work, detention, etc.), suspension, and expulsion (Sugai et al., 2000). There is evidence that the

exclusive use of punishment may actually increase aggressive behavior and the incidence or severity of the problems they are designed to address (Skiba & Peterson, 1999).

In contrast, active supervision strategies (i.e. high rates of movement, scanning, and positive interaction with students) have been shown to be effective in reducing problem behaviors, *such as bullying, intimidation, and harassment* (Smith & Sprague, 2003; Garbarino & deLara, 2003). While active supervision strategies on their own have been successfully used to support student behavior during classroom transitions (De Pry & Sugai, 2002), in cafeterias (Lewis, Colvin, & Sugai 2000), and on playgrounds during recess (Lewis, Colvin, & Sugai, 2000; Sprague & Walker, 2005) across a wide range of student populations, the addition of evidence-based PBIS practices enhance the reduction of student problem behaviors while increasing their appropriate, expected behaviors (Safran & Oswald, 2003; Sprague & Walker, 2005; Walker et al., 2004). The PBIS strategies embedded in Systematic Supervision consist of high rates of positive contact (general, proactive interactions with students), positive reinforcement (high rates of acknowledgement of expected target behaviors specific to the setting or activity), and responding to minor problem behaviors (using a logical, support-based, and non-critical de-escalating approach). All of these strategies, when used together and in conjunction, have been shown to have a significant clinical effect on reducing problem behavior and increasing pro-social and expected behaviors in staff and students alike (Smith, Sprague, Marquez, Caraway, & Wendt, in submission).

#### Characteristics of effective training for school staff

Clearly, presenting evidence-based practices are prerequisites for effective training outcomes, but alone do not ensure skill mastery and application. An all-setting, all-staff approach to supervision and behavior support is recommended as best practice (Sprague, et al., 1998, Sprague, & Walker, 2005) because it aims to increase the consistency and level of effort across all school environments. An all-staff training strategy is recommended because: 1) it represents the most cost-efficient training method for all staff members at a time when school budgets are tight, 2) it supports a greater likelihood that staff members will develop and maintain consistency and fidelity of implementation, and 3) it supports a greater likelihood of program success when staff members speak the same language and use consistent, predictable behavior management and support practices. Other research-based programs designed to accomplish these ends have been successful, such as Second Step Violence Prevention Program and its extension, Steps to Respect (Grossman, et al. 1997). In these programs, the staff training takes place before any student intervention components are delivered. Additionally, these programs address a very specific need critical to intervention success: they offer both staff and student training materials presented in multiple exposures or doses, which has been shown to be a key to effective implementation and maintenance of skills (Ramey & Ramey, 1998).

While the content of training interventions is critical to the acquisition of skills, the form of their delivery can also have an impact on skill acquisition. One of these is observational learning. Modeling, or observational learning, refers to the acquisition of behavior patterns and cognitive skills by observing the performance of others (Bandura, 1989). Evidence indicates that programs incorporating observational learning approaches (Bandura, 1977) and interactivity strategies (Showers & Joyce, 1996) are likely to increase the rate and efficacy of skill acquisition. For instance, playground supervisors who are able to observe the effective performance of other

supervisors will be more likely to engage in similar behaviors than will individuals who do not observe the behaviors. A companion to observational learning is Bandura's (1977) concept of self-efficacy, which links behavioral intention to actual behavior. Bandura suggested that people constantly process, evaluate, and reevaluate information about their strengths and weaknesses, thereby forming a unique pattern of self-perceived competencies. Perceptions of self-efficacy then affect the activities that individuals choose to pursue (or to avoid). According to the theory, viewers are more likely to act on their behavioral intentions if they have a sense of self-efficacy, or competence, in relation to the intended action.

#### *Interactive learning*

Interactivity is another approach that is likely to increase the rate and efficacy of skill acquisition. Interactivity is a critical self-instructional component that incorporates feedback, performance support (practice), assessment, and interactions between learner and expert, among participants, and with content material (Hillman, Willis, & Gunawardena, 1994). In a study of teachers' learning from in-service training, Joyce & Showers (1995) found that when teachers were exposed to a training that only presented theory, 85% showed gains in understanding, but only 15% demonstrated gains in skill proficiency. When able to practice the skills taught and gain simple feedback on their progress, the percentage of teachers demonstrating skill proficiency jumped to 80%.

### **D. Project Development**

#### *Phase II program features*

As stated above, we identified three main tasks to complete in order to successfully achieve the goals of the project. The first task was to develop and deliver new supervision and behavior management training components to school staff using an Internet-enhanced DVD format —eDVD.

The project's development staff (Principal Investigators, Research Associates, and Media Developers) engaged in a series of work sessions to determine learning objectives for the program, enrich the program content, and refine the design for program delivery. The core skills involved in Systematic Supervision Phase I were highlighted, the research-based strategies for applying supervision and behavior management skills were refined, and issues pertaining to media delivery and effective staff professional development were reviewed. The program training materials were organized and presented to the focus groups/key informants with the ultimate goal of achieving an engaging learning experience that imparts and supports knowledge, motivation, and skill acquisition through the use of compelling storylines, modeling situations, right way/wrong way examples, and interactive learning exercises as well as meeting the needs of the target audience/end users. The program development team's preliminary work was reviewed by stakeholder focus groups and key informants who served as project consultants.

Final Phase II program features included:

- (a) an expanded scope of content,
- (b) an enhanced delivery system,
- (c) innovations in program presentation, and
- (d) an implementation schedule that allows for group and individual training.

(a). *Expanded Scope of Content*

With our goals of making a positive impact on school climate and school safety, we developed several new effective and comprehensive supervision training program modules for elementary school staff. The Phase II *Systematic Supervision* training program expansion: (a) includes training on understanding and using positive behavior supports, (b) includes training specific to hallways, cafeterias, restrooms, buses, classrooms, and other common areas; (c) includes training specific to parents, and (d) develops behavior-expectation programs for students that complement staff training modules.

The following training modules were developed:

- An Introductory Module to introduce the key aspects of Systematic Supervision
- For school staff, we added to the scope of the Phase I *Systematic Supervision* playground program by adding 3 additional modules to cover additional school settings of classrooms and common areas (hallways, cafeterias, restrooms, and school buses).
- A concluding module covering Teamwork and Data Collection
- A module for students showing them how to be safe, responsible, and respectful in various school settings and environment, and on the bus.
- A Parent Module to introduce the concepts of positive behavior support to parents or caregivers and which was also designed to strengthen the home-school connection.

Staff Modules: 1-4 *Introduction, Supervision of Classrooms, Common Areas, Playgrounds, and School Buses.* These modules provided a clear guide to the theoretical background and operational application of PBIS concepts. They incorporated the critical training characteristics of *Systematic Supervision* as discussed above. Module 1- 4 content presented active supervision and positive behavior support procedures: high rates of movement, scanning, and positive interaction with students; immediate and contingent positive reinforcement; immediate and contingent correction to problem behavior; teaching of rules and expectations; and the practice of team-directed, data-based decision making. Content included descriptions and examples for understanding (a) the difference between positive and negative behavior, (b) the functional nature of behavior, (c) how behavioral supports alter individual behavior and affect school climate, (d) the value of establishing behavioral rules and expectations, (e) how to best teach these rules and expectations, (f) why reinforcing appropriate behavior works and how to do it, (g) how to effectively correct inappropriate behavior, and (h) how to monitor program efficacy. These modules include descriptions, examples, and the basic implementation steps to address the setting specific needs and challenges for supervising enclosed areas where substantial numbers of students gather and move through .

Staff Module: 5 *Conclusion: Teamwork and Data Collection.* This module illustrated strategies by which school staff members from all areas of school can work together to form a behavior team that allows them to get a clear picture of what's going on. We introduced our Behavior Log as a way for the team to collect data, and see which students need more support, identify which areas need more or different levels of supervision and support, and plan for program implementation (allocating time and resources effectively in order to accomplish specific implementation goals).

Family Module: 6 This 6-minute video on Promoting Positive Behavior at School and at Home was produced, as well as a downloadable printable. Designed to provide parents with an overview of the Systematic Supervision program being implemented in their child's school, and enabling participating parents in supporting program efforts by practicing these same strategies with their student(s).

Student Module: 7 .

As part of the staff training package, we included a set of student training videos that school staff members use to teach positive, pro-social and school-appropriate behavior to students. While conducting the Phase I research, we learned that there was great deal of variability across and among schools in the way students are taught basic behavioral rules and expectations. As a result, the behavioral expectation student video, *Play by the Rules*, was created. *Play by the Rules* enjoyed enthusiastic reception by educators and informed our decision to develop three additional student components covering materials related to Modules 2 (hallways, etc.), 3 (classrooms, etc.), and 4 (special situations: buses, field -trips, etc.)for the Phase II project.

The behavioral expectations illustrated in the student training components present universal behavior rules and expectations, indicated in the Phase I study to be fundamental to most educational environments. These rules and expectations were subjected to focus group input and validation.

*(b) Enhanced delivery system*

The program provided end users with two choices for accessing the training: DVD or the Internet. The Internet provides the complete training via an interactive training platform with streaming of *video learning sequences* and *interactive exercises*. The DVD provides the programs' video presentations. Because we use an enhanced DVD technology (eDVD), a user can employ the DVD to link to these presentations to interactive exercises and assessments on the Internet. This intentionally-redundant delivery system allowed for flexible group or individual use to meet a variety of training needs and schedules: (a) large -screen group presentation via DVD and (b) individual study and self-assessment on the Internet. Using this technology, individual users could select the components, sequence, and duration of instruction. Within each program module, users were able to access information in sequential and continuous fashion, progressing from simple to more complex tasks, or they will be able to access the information by subject headings, which is particularly useful in a review of the material.

Each module contained a series of interactive features: embedded questions, hyperlinks to related materials, and interactive self -assessments. Hyperlinks were used to give definitions to technical words, to provide a relevant form or template, and to expand the instruction with additional text or multimedia materials. The interactive assessments allowed users to test their knowledge and application of skills in a safe, non -judgmental environment. The interactive features were designed to foster high comprehension, retention, and motivation, as well as allow individuals to learn at their own pace, repeating exercises as many times as they found necessary for mastery without fear of exposing any personal challenges to assimilation to others. These features have been incorporated into a prototype site that IRIS Media has since developed for the Beaverton, Oregon school district.



*Implementation schedule:* The program provided a recommended implementation schedule for delivering

multiple doses of the group and individual training interventions over the course of the school year. Program interface timing and frequency of these trainings were monitored in the evaluation study in order to make recommendations to implementers of the program.

(c) *Program presentation.*

The instructional materials for each of the Systematic Supervision modules were presented through *video learning* sequences featuring realistic, situational vignettes, that use multiple positive and negative exemplars. These video learning sequences were complemented by the addition of:

- *self-assessments.* The self-assessment activities were a means by which users could measure their ability to apply to skills in real situations and get personal on-line assessment and feedback regarding their progress.
- *printable resources.* Each module had a downloadable PDF covering key elements of that module's content and training/learning objectives.

Additional support and reference materials were made accessible on the web, which is currently updatable and will continue to give users easy access to important training and support resources on-demand, and as new material and supports become available over time.

*Training Guide.*

As in Phase I, an Implementer's Guide was developed describing optimum administration and monitoring of the training program, a critical feature that promotes administrative buy-in and sustainability.

(d) *Implementation schedule:* We provided a recommended implementation schedule that delivered multiple doses of the group and individual training interventions over the course of the school year. Program interface timing and frequency of these trainings were monitored in the evaluation study in order to make recommendations to end-users/ implementers of the program.

## **E. Focus Groups / Key Informants**

The second task identified as necessary to successfully complete the project goals was to conduct focus groups comprised of key stakeholder groups - school professionals, parents, and students - to ensure that program content would be compatible with the school environment, sensitive to the needs of diverse school communities and community members, and meet the needs of the end-users/program implementaors.

Focus groups provide an ideal activity for the examination of different stakeholder perspectives and to examine how knowledge, ideas, story-telling, and linguistic exchanges operate within a variety of cultural, geographic, and experiential contexts (Barbour & Kitzinger, 1999). Social validity investigations are an essential component of program application and applied research methodology. They help evaluate the acceptability or viability of training programs with respect to both implementation and ongoing program application. It is important to develop and implement programs in ways that best meet the needs of consumers, as even the highest quality programs are of no use if they are not accessible or

acceptable to the targeted audience. Modifying program content to fit the needs and interests of target participants is a primary factor in successful prevention programs (Nastasi et al., 2007). For this project, the focus groups also provided a valuable opportunity to elicit ideas for situational vignettes; important because providing a realistic context for modeling scenarios is a necessary instructional and engagement factor.

Therefore, in order to inform program development and bolster the social validity of the program, we conducted three focus groups (school personnel, parents, and students) with key stakeholders who each provided unique perspectives (Krueger & Casey, 2008).

The focus groups were facilitated by the Principal Investigator and key personnel involved in program development. The focus group methods adhered to guidelines developed by Krueger and Casey (2008) for determining the questioning route, for carefully recruiting participants, for using a skillful moderator, for analyzing the focus group sessions, and for reporting the results.

Focus group participants in each case were recruited from the Eugene, Oregon metropolitan area through newspaper advertising and through referrals from the extensive local school contacts of the Principal Investigators. The greater Eugene metro area is comparable to other Interstate 5 corridor urban populations in terms of diversity, ethnicity, and other demographic dimensions. Focus group participants were recruited with the widest possible racial, ethnic, gender, and socio-economic representation possible in mind. These participants were selected to attain the widest representative distribution of experience, income, ethnicity, race, and gender possible within the targeted stakeholder populations available. School personnel and parent focus group participants were paid \$70 each for approximately 2 hours of their time. Focus groups with the student participants were held at the same time and same location as the parent focus groups and the parents of student participants were paid \$25 for approximately 1.5-2 hours of their child's participation.

The project research group members (IVDB, IRIS Media) brought considerable experience in focus group moderation and facilitation, guiding the discussion and ensuring that all voices were heard. The focus group began with the collection of informed consent/assent, a description of the research project, and an explanation of the purpose of the meeting. The participants were viewed as experts in their roles, and their feedback on the validity, clarity, relevance, and importance of the proposed content was solicited in order to help assure the usefulness and usability of the project's products. Participants were encouraged to share experiences from their own lives that illustrated the relevance of the content or, conversely, proposed alternative content or approaches. A research assistant attended the meetings making detailed notes of the participants' comments. Following the session, project staff will debrief and analyze the information collected to arrive at a shared understanding of the comments generated; revisions and additions to the content will be made. Responses will be analyzed for common patterns and themes. During this analysis the research group paid special attention to those areas in which there were substantial agreement across groups and types of participants.

### **Phase II Focus Groups**

Four formative focus groups with the following participant populations were conducted:

- Students (n = 10)
- Parents (n = 11)
- Teachers (n = 13)
- PBIS Coaches (n = 10)

The focus groups were held at an early stage in the development process to inform content and presentation. We collected quantitative and open-ended responses from these participants.

(a). Overall Results:

The moderators engaged participants in a structured discussion about key topics, eliciting personal experiences and connections with the materials. Some sessions were audio-taped and others had note takers. Results were analyzed to identify themes in participants' responses. Data were collected and were used to evaluate social validity and thus, the feasibility of the program.

(b). Results from the first focus group - students:

Demographics: the first focus group was held at Howard Elementary School in Eugene, OR on 1-22-08, and was attended by 10 elementary school students: 5 male and 5 female. The average age was 9.5 years. None identified as Hispanic; all as non-Hispanic. There were 8 Caucasian and 2 American Indian/Alaska Native.

The group watched the "Play by the Rules" playground behavior expectations program and several of the vignettes from the "Systematic Supervision of Common Areas" elementary school adult training program. The viewing time totaled approximately 30 minutes. Participating students were asked the following questions: *What did you think of the videos? Did you like to watch them, were they entertaining? If there were programs like this [Play by the Rules], for other places kids go in school, what should they show? How do you think an adult can best deal with a student who is having problem behavior? How should they talk to the student? Is it OK to be angry with a student who is misbehaving?*

Most of the feedback was positive, with 9 out of 10 children saying that the program should include information on supervision on the bus, in the cafeteria, and in hallways. The students also agreed that the rules should be taught "on station" – in the setting where they are expected to be preformed. "Teach [on-station] even if it is cold".

The feedback from students was used to modify or refocus some of the other (staff and parent) training modules of the program, and demonstrated to the Development Team that the videos were engaging to the children.

(c). Results from the second focus group - parents:

Demographics: the second group was held at Howard Elementary School in Eugene, OR on 1-22-08, and was attended by 11 female parents. The average age was 40. No participants identified as Hispanic; all non-Hispanic. 9 identified as Caucasian; 2 as American Indian/Alaska Native.

The group watched the "Play by the Rules" playground behavior expectations program and one vignette from the "Systematic Supervision of Common Areas" elementary school adult training program. The viewing time totaled approximately 20 minutes. The parents were asked about what parents would like to see in the program as well as how they thought their children would respond to the material. Questions included: *If we had a family component on using PBIS*

*and supervision: how do you think that parents would like to hear about or access it [high speed internet connection, DVD, VHS, printed materials, school seminars, emails, other ways]? What would parents like to see their children learn from the student components? Do you think kids will respond to the student components? What is the best way to inform parents/families about effect supervision and behavior support and introduce these strategies to them? What interactions are there for school/families? Would parents like to see what the staff and student training programs looked like?*

Parents' response to the program was positive and garnered extensive feedback on how the program could be benefit from parental inclusion. The Development Team took the feedback in to account in the development of program modules.

(d). Results from the third focus group – school staff:

Demographics: the third focus group was held at Howard Elementary School in Eugene, Or on 1-27-08, and was attended by 13 staff: 11 female and 2 male. The average age was 40. 1 person identified as Hispanic; 12 as non-Hispanic. 12 identified as Caucasian, 1 identified as Other. The average number of years in teaching were 12.

The group watched a portion of the Systematic Supervision elementary program, and the "Play by the Rules" playground behavior expectations program. The viewing time totaled approximately 20 minutes. Participants were asked about their response to the program as well as suggestions for what they would like to see in further modules. Since school staff are one of the key target groups for the program these suggestions were very important so that the end program was designed in a way that supported the target audience and had social validity. Questions included: *We are developing additional training materials for all other settings in the school [buses, transitions, restrooms, etc.]. We will also have a School-wide Positive Behavior Support component. What are your thoughts about this overall idea? What would you like to see? What would be the best way to present the content to staff and students? What would you want to see included in terms of program materials: printable materials, reminder cards, CEUs?, journals, behavior logs, printed or printable viewers guides, color, black and white?*

Responses to the program were positive and the questions about content and materials garnered extensive feedback, such as including topics on cafeterias, hallways, bathrooms, noise and emergencies. The participants also had suggestions for the content of these topics that were largely incorporated in the development of the full program.

(e). Results from the fourth focus group – Positive Behavioral Intervention and Support (PBIS) coaches:

Demographics: the fourth focus group was held at the Oregon PBIS Coaches conference in Corvallis, OR on 1-14-08, and was attended by 10 educators: 2 male and 8 female. The average age was 45.1 years. None identified as Hispanic; 10 as non-Hispanic. 8 identified as Caucasian, 1 as Asian/Pacific Islander, and 1 preferred not to answer. The average years in teaching were 12.3.

The group watched portions of the Systematic Supervision elementary program, and about half of the "Play by the Rules" playground behavior expectations program. The viewing time totaled approximately 20 minutes. Participants were asked about their response to the program as well as suggestions for what they would like to see in further modules. Since PBIS coaches are likely the point of contact for implementation of the program their suggestions were deemed vital for developing a useful and appropriate program. Questions included: *Does it*

*seem to you that it would be worthwhile to have a resource that would address different environments at school? Would it be good to have lots of self assessment tools? Would a parent component very useful? How would you deliver it?*

In general the comments about the program were positive. One coach stated "I like the online. Everyone at my school has playground duty. I can't train classified with teachers because of the unions – it would help a lot to have this training across school areas. It would be useful to me if I know that everyone is trained on the same and we are all using the same plan". Other coaches expressed appreciation for the program and made suggestions for materials to support the media, for example, "I like the printables – for each classroom, or clip board. Easily and quickly review what the school wants to focus on that week or day". The feedback and suggestions were taken into account during the later development of the program.

## **F. Revised Program Design and Deveolpment**

Once feedback from the focus groups was analyzed, the research, media development, and instructional design team collaborated on developing content for the multimedia sequences, printed manuals, and interactive Internet assets. The presentations were designed to balance visual, expository presentation with situational vignettes (including use of right way/wrong way examples and other techniques that promote observational learning). Materials were produced to reflect a gender balance and racial/ethnic diversity. IRIS Media has extensive experience as a developer of DVD and Internet-based programs in this regard. The use of the eDVD delivery approach ensured flexible use by trainers and individual users, allowing access to the program with any of the following: a) DVD player only, b) computer with DVD-ROM (MAC or PC), and c) Internet access.

The program contained interactive features that were available to users with internet access or a DVD-ROM drive. The production of an eDVD program required specialized development tools that integrated the delivery capability of DVD with Internet interactivity. IRIS Media is a licensee of InterActual, the leading provider of software and services in this area. To author and master the eDVD assets (multimedia, text, Internet applications and video) we used Sonic Solution hardware (DVD encoder) and software. Tools such as Flash, Dreamweaver and Sonic Solution were used in creating interactive Internet and DVD-ROM sequences. The production of the eDVD and its component assets were the responsibility of the Media Producer who heads up a team of experienced professionals: graphic artists, multimedia authors, video directors and editors, Internet designers, sound engineers and production assistants. The eDVD assets were produced along separate, coordinated tracts and were produced in house. Video sequences were shot on location using diverse adult and student talent. Video materials were shot and edited on the DVCAM professional format prior to authoring and mastering to DVD. The video component were mastered for both eDVD replication and VHS duplication. Cover art, which promotes and describe the program, was inserted under the cases' clear vinyl overlay. The User Guides which accompanies the video consisted of a 5.5" x 8.5" book with staple stitch binding. The accompanying Administrator Guide was printed on a durable fan-fold card stock.

## **G. Project Evaluation**

## **Methodology**

The study utilized program-specific measures to answer three core questions: First, does multimedia training of staff members (and students) in common area systematic supervision result in an improved school climate? Second, does the training result in increased levels of staff member self-efficacy for maintaining order in the public areas of the school? And third, does the training result in improved and adequate mastery of skills concerning the supervision and behavioral strategies presented to staff members?

### ***Research Design***

The Systematic Supervision program was evaluated with 2 cohorts of schools using a wait-list control design within each cohort, with schools randomly assigned to either intervention or control conditions. Elementary schools were enlisted with assistance from their school districts, recruited, and assigned to condition. Schools were matched by number of students served, socioeconomic status, ethnicity, gender, age, and staffing demographics. Schools were invited to participate based on their willingness to (a) commit their staff to the training and assessments (b) adhere to the evaluation timeline, (c) participate in and complete group and individual training as recommended in the implementation schedule, (d) comply with the data collection schedule, and (e) present the student video training programs on schedule. To encourage full participation and compliance with the Phase II implementation schedule, schools received a stipend of \$2000 for Cohort 1 and \$1500 for Cohort 2. This stipend was calculated to account for the use of staff time and school resources.

Participating staff members were assessed twice, pre and post intervention (Systematic Supervision training), and student participants were assessed once by condition, with the non-intervention school students serving as the comparators for the treatment school students. The study took place over 21 months, from the fall of 2008 through the spring of 2010 utilizing the two cohorts design. The initial evaluation (Cohort 1, fall 2008 to spring 2009) included 21 schools, with 11 in randomly assigned to intervention and 10 to control condition. Intervention schools received group training for all settings in the spring of 2009 with a suggested training schedule that allowed for ongoing individualized training for each module. A second cohort of schools was recruited in the summer of 2009 (Cohort 2 fall 2009 to spring 2010). Cohort 2 included 23 schools, with 13 randomly assigned to intervention and 10 to control.

### ***Measures***

Prior to the staff member on-line program training presentation, an on-line assessment was presented to the participating staff members (T1). Upon completing the assessment, participating staff members were directed to the online intervention site and asked to review each of the program modules and complete the exercise and self-assessments for each program in a three to four month time period. Participating staff members received a separate certificate of completion for completing the individualized training in each program module. Finally participating staff members completed another assessment package using a similar procedure as before at T2. *Staff Member and Student Measures*. The evaluation included a student survey assessing student perceptions of school climate and interpersonal relationships with school staff and peers, along with an staff participant assessment that included school climate, self-efficacy,

and knowledge assessments designed to measure staff member knowledge, skills mastery, perceived self-efficacy, staff fidelity of program implementation, and the social validity of the overall program and each of its modules. Staff member and student participation was voluntary and anonymous. Student participation was subject to prior passive informed parental consent. Staff member participation was subject to informed consent at each instance of assessment

*Teacher Efficacy Scale*; Gibson, & Dembo (1984). This questionnaire was delivered online and used to measure the impact of the program on staff self-efficacy. The relationship between self-efficacy and performance outcomes has been suggested in Bandura's (1977) Social Cognitive Theory. The instrument contained 16 items in six point Likert format ('1' strongly disagree to '6' strongly agree) that measures the two efficacy constructs, PTE (9 items) and GTE (7 items). Coefficient alphas for the two subscales were .4359 (GTE) and .7231 (PTE). This scale has been shown to be a valid and reliable measure of the both constructs. (Henson, Kogan, Vacha-Haase, 2001; Tschannan-Moran & Woolfolk Hoy, 2001; Woolfolk & Hoy, 1990). Data was collected at pre-assessment and post-assessment. to determine to what extent the staff felt that the training has skills and procedures presented in each program module were useful and useable by the individual staff member. This measure was collected at T2 and T3.

*Skills Mastery and Self Efficacy Assessments for Staff Members*. The purpose of this online assessment was to determine how effectively the Systematic Supervision program content was conveyed by the training materials, and how that translated into staff member perceptions of self-efficacy and mastery. These assessments were developed by project personnel, based on the theories and strategies underlying the program and upon the content of the prototype program modules as presented to participants during the study. This measure was collected T1 and T2. *User Satisfaction Questionnaire (USQ)*. This post-only user satisfaction measure for the Intervention Group was developed by project personnel and modeled after measures we developed for other projects. The items making up the USQ were included as part of the assessment package at T2. Fifteen Likert-type items measured: (a) Stimulation (e.g., Did the materials hold your interest?), (b) Comprehension (e.g., Were the messages in the material easy to comprehend?), (c) Acceptability (e.g., Were the materials designed for support providers like you?), (d) Relevance (e.g., Did the language and images reflect your everyday situations?), and (e) Persuasiveness (e.g., How would you rate the quality of information presented?).

### ***Procedures***

Participating school staff members were informed about the intervention and given permission to use school time to complete the assessments. All staff members at participating schools were invited to participate. Participating staff member training and questionnaires were administered online. Participating staff members were informed that participation would be anonymous, voluntary, and subject to their prior informed consent. For administration of online measures, IRIS Media created a secure web site (separate from the training site) that was accessible to staff participants for the purposes of collecting online data. Participating staff members received email instructions on how to log on to this website to access questionnaires and enter data at T1 and T2 evaluations. Each student DVD component was presented in a classroom setting by the classroom teacher in the spring of the school year and students were assessed at T2 in both treatment and control schools.

The web assessment applications were developed using standards set forth by the World Wide Web Consortium (W3C), ensuring maximum browser compatibility. All web-based interactivity was created using a combination of ASP and PERL whenever possible. These programming languages are designed for execution on the web server, thus mitigating any client-side browser requirements beyond the ability to display standard HTML. Actionscript and Javascript languages were used to supplement the enhanced content to provide further interactivity. Intuitive layout designs and graphics facilitated usability. Graphics and navigation controls were consistent throughout all web pages to increase functionality.

Online procedures adhered to guidelines recommended by Barchard (2003) to guarantee that online participants receive the same level of human subjects' protection as participants in more traditional laboratory studies. Staff participants were emailed an online consent form (for convenience sake, a separate hard copy was mailed to participants, also), which they were asked to download, print, sign and return to IRIS Media by mail or by email as a PDF attachment. Once consent was received, each participant was emailed a link to the study web site, login instructions and a unique pin number. The study site contained an overview of the project and instructions for completing the pre-training assessment at T1. Staff members who completed T1 pre-training assessments gained access to the T2 assessment. After administration of assessments at T1, staff in the intervention condition accessed the programs online over a 6 to 11 week period for Cohort 1 and 6 to 14 week period for Cohort 2. Additionally, at the end of the intervention period each intervention school was asked to present a staff-wide inservice of the program to be facilitated by a school administrator (Principal or Vice-Principal) using the facilitator's implementation Guide.

### *Participants*

The initial evaluation (Cohort 1, fall 2008 to spring 2009) included 21 schools, with 11 in randomly assigned to intervention and 10 to control condition. Intervention schools received group training for all settings in the spring of 2009 with a suggested training schedule that allowed for ongoing individualized training for each module. A second cohort of schools was recruited in the summer of 2009 (Cohort 2 fall 2009 to spring 2010). Cohort 2 included 23 schools, with 13 randomly assigned to intervention and 10 to control.

In Cohort 1 there were 140 staff members, 60 in control schools and 80 in intervention schools. There were 21 males and 119 females, with 110 of the participants self-reporting their race as Caucasian, 3 as African-American, 4 as Asian, 1 Native Hawaiian/Pacific Islander, 6 as more than one race, and 14 choosing not to answer. There were 10 Hispanic, and 120 non-Hispanic participants, with 10 choosing not to answer. The ages of the participants ranged from 19 to 65, with an average age of 42.5. Educational background included 1 high-school graduate, 3 with some college, 3 with Associate degrees, 12 with Bachelors degrees, 63 with Post-graduate work, and 57 with Graduate or Professional degrees.

In Cohort 2 there were 254 staff members, 103 in control schools and 151 in intervention schools. There were 31 males and 223 females, with 196 of the participants self-reporting their race as Caucasian, 4 as Native-American, 3 as Asian, 1 Native Hawaiian/Pacific Islander, 26 as more than one race, and 24 choosing not to answer. There were 23 Hispanic, and 206 non-



Hispanic participants, with 25 choosing not to answer. The ages of the participants ranged from 19 to 67, with an average age of 45.7. Educational background included 16 high-school graduates, 22 with some college, 23 with Associate degrees, 39 with Bachelors degrees, 85 with Post-graduate work, and 69 with Graduate or Professional degrees.

### ***Statistical Analysis Methods***

We assessed intervention effects on each of the primary outcomes with a nested time by condition analysis (Murray, 1998). This tests differences between conditions on change in outcomes from [the beginning of the year] (T1) to [the end of the year] (T2). This analysis approach included all data—whether or not a participant’s scores were present at both time points—to estimate differences between assessment times and between conditions. The nested time by condition analysis accounts for autocorrelation among assessments within individual participants and the intraclass correlation associated with multiple participants nested within the same schools. As a test of net differences, it also provides an unbiased and straightforward interpretation of the results (Cribbie & Jamieson, 2000, Fitzmaurice, Laird, & Ware, 2004).

The specific model tests time, coded 0 at T1 and 1 at T2, condition, coded 0 for control and 1 for schools that received the Systematic Supervision intervention, and the interaction between the two. The time by condition effect estimates the difference in gains in the dependent variable between conditions. All tests used 46 degrees of freedom.

*Model estimation.* We fit models to our data with SAS PROC MIXED version 9.1 (SAS Institute, 2004) using restricted maximum likelihood (REML), generally recommended for multilevel models (Hox, 2002; Verbeke & Molenberghs, 2000). From each model, we estimated fixed effects and variance components. Maximum likelihood estimation for the time by condition analysis allows the use of all available data and provides potentially less biased results even in the face of substantial attrition, provided the missing data were missing at random (Laird, 1988; Schafer & Graham, 2002). In the present study, we did not believe that attrition or other missing data represented a meaningful departure from the missing at random assumption, meaning that missing data did not likely depend on unobserved determinants of the outcomes of interest (Little & Rubin, 2002).

The estimated models assume independent and normally distributed observations. We addressed the first, more important assumption (van Belle, 2002) using multilevel statistical models. Regression methods have also been found quite robust to violations of normality (Fitzmaurice et al., 2004; Gibbons, Hedeker, Elkin, & Waternaux, 1993), and several studies have found that nonnormal data leads to acceptable results in a variety of multilevel modeling scenarios (Donner & Klar, 1996; Hannan & Murray, 1996; Maas & Hox, 2004a; 2004b; Murray et al., 2006). This feature of multilevel models eases concerns about the different scoring methods used for the various measures.

## **Results**

### **Staff Assessment Data**

For each measure, the analyses provide an estimate of the difference in gain scores between conditions accounting for the clustering of teachers within schools. The results are presented below, in Table 1.

Table 1. Means of Each Measure by Time and Condition

Measure	T1		T2	
	0:C	1:I	0:C	1:I
Self Efficacy	7.251	7.499	7.396	7.719
Skills Mastery	0.769	0.776	0.799	0.840
Climate Total	0.435	0.406	0.427	0.401
Climate Innovation	0.656	0.626	0.652	0.638
Climate Decisions	-0.002	-0.036	-0.020	-0.046
Climate Resources	0.311	0.246	0.276	0.211
Climate Relations	1.068	1.077	1.059	1.070
Climate Collaboration	0.167	0.140	0.179	0.147
Common Area Supervision	3.442	3.422	3.462	3.501
Student Positive Behavior	3.170	3.252	3.316	3.459
Student Problem Behavior	1.514	1.534	1.435	1.407
School Characteristics	2.700	2.857	2.696	2.914
Prevent Practices	2.322	2.392	2.391	2.446
PP Environment	2.466	2.514	2.504	2.561
PP School Systems	2.122	2.241	2.208	2.278
PP Common Areas	2.401	2.484	2.502	2.585
PP Nonclassroom	2.343	2.381	2.403	2.451
PP Classroom	2.518	2.571	2.568	2.564
PP Individual Systems	1.983	2.063	2.058	2.148

*Self-Efficacy.* The results of the analysis of teacher self-efficacy show that teachers in schools in the intervention condition gained about 0.037 more than teachers in schools in the control condition. This number small compared to the standard error of 0.090, so it does not show a statistically significant condition effect.

*Skills Mastery.* The intervention produced statistically significant gains on the skills mastery measure. Table 2 shows that teachers in intervention schools outperformed those in control schools by .033 or about 3.3%. It is possible to reproduce the estimate, in Table 2, roughly from Table 1: the gains in the intervention schools from Table 1 ( $0.064 = 0.840 - 0.776$ ) minus the gains in the control schools ( $0.030 = 0.799 - 0.769$ ) equals 0.034 or about 3.4%. The estimates in Table 1 will differ slightly due to the estimation method. The analytical models use all available data even if a teacher did not provide data at one assessment, but it will more heavily weight cases with data at both T1 and T2 over those with just one assessment.

Table 2.

Measure	Estimate	Standard Error	t-Value	p-Value
Self Efficacy	0.037	0.0903	0.41	0.6809
Skills Mastery	0.033	0.0122	2.73	0.0089
Climate Total	-0.001	0.0151	-0.05	0.9639
Common Area Supervision	0.062	0.0376	1.65	0.1055
Preventative Practices	-0.014	0.0350	-0.41	0.6866

*Note.* All tests used 46 degrees of freedom.

Table 2 excludes most subscales that clearly do not demonstrate differences between conditions. For example, none of the climate subscales produced p-values below .50, so they are omitted from the table. The teacher reported common area supervision measure, however, approached statistical significance ( $p = .1055$ ).

### Discussion

The study utilized program-specific measures to answer three core questions:

- Does multimedia training of staff members (and students) in common area systematic supervision result in an improved school climate?
- Does the training result in increased levels of staff member ~~effisatly~~ fidelity for maintaining order in the public areas of the school?
- Does the training result in improved and adequate mastery of skills concerning the supervision and behavioral strategies presented to staff members?

The results indicate differences, albeit non-significant, in teacher self-efficacy, and fidelity of implementation for common area supervision skills. A significant difference was detected in skills mastery. These results suggest the efficacy of the program as delivered, and only in specific areas of interest. It should be noted that increases in staff participant perceptions of self-efficacy may have been influenced by a ceiling effect. The self-efficacy rating scale (from 0 = Nothing/Not at all, to 8 = A Great Deal) had a maximum possible rating score of 8.0. Most staff members, in both treatment and control schools, rated their perceptions of self efficacy between “Quite a Bit” (6 on the rating scale) and “A Great Deal” (8.0 on the scale). Significant change might be considered differently given these response patterns, with even little change potentially representing a clinically significant increase or decrease as reflected in real-life supervision and behavior management practices.

It is important that a well designed multi-media program, delivered completely online, can produce desired results in the area of staff development, particularly skill development. This is a promising finding and suggests that this format offers a potentially very cost efficient alternative to traditional “stand and deliver” staff development practices. In addition, the ability to repeat the training content with consistent fidelity and quality is significant. Finally, the program’s ability to monitor usage sets up a variety of potentially effective coaching and follow up methods. None of these were tested in the current study.

### *Limitations*

The results of the study should be interpreted with caution due to a number of issues. First, while the study involved a large number of schools and participants, it should not be construed as a true representative sample of elementary schools in the United States. There is a need to replicate the methods to make further assessment of the generality of the findings.

The time period between pre and post assessments was very short. We had hoped to observe teachers and students for a full school year period, and the logistics of recruitment and rapidly shrinking school budgets due to the U.S. recession, interfered with our ability to sustain the study in the manner we had proposed. As a result, it is not surprising that we found only a few differences between treatment and control groups. Future research will need to account for this limitation by following schools for a longer period of time. Specifically, we believe that all three constructs assessed in this study would show greater differences between Treatment and Control schools given a longer time to implement and even repeat the program. In other published studies on school wide PBIS, differences were not observed until the third year of implementation (Horner et al., 2009; Bradshaw et al., 2009). These recent findings have clear implications regarding how to carry out a test of a multimedia staff development program.

### *Future Research*

Replication of this study in schools, using Systematic Supervision or a functionally equivalent set or subset of the supervisory strategies presented in the program is recommended. For instance, it would be beneficial to study the effects of the program over a longer implementation period, including repetition of the material, and coaching. Research along these lines would allow us to identify specific practices that are equally effective, or better than traditional training approaches, and to better understand how the selected constructs change over time.

Another avenue of future research would be to examine the situational conditions present in each school that might reasonably affect desired outcome measures. Some of the key situational variables and directions for further research on program fidelity and program success could be:

*Strong (positive and supportive) and committed leadership.* Future research might focus on the role of the site administrator and the effects of clear and concise leadership during training and implementation.

*A "multiple dose" approach to training.* Repeated exposure to the training might increase the acquisition and use of the presented skills and increase the fidelity of program implementation. This makes logical sense and implies that research into the effects of multiple doses of the training on staff member use of the strategies would be valuable in determining the efficacy of that practice. In addition, investigating the effect of the media program alone, versus using the media program plus systematic coaching would provide some insight into how to achieve more powerful effects.

### **Conclusion**

Effective supervision techniques and strategies have increasingly become an integral component of many behavior support programs designed to reduce or eliminate bullying in school, the Olweus Bullying Prevention Program, Second Step Violence Prevention Program,

Steps to Respect, and the Toronto Anti-Bullying Program to mention a few (Olweus, 1996; Frey & Rivera, 1997; Smith, Pepler, & Rigby, 2004). It is widely recognized that adult responses to student behavior are key in determining whether students are socially and behaviorally successful and supported or exhibit and engage in problem behavior. It is every educator's mandate to insure, to the best of their ability, that students are not only educated appropriately, but also are kept both safe and healthy. Given that, then continued effort in determining effective and efficient behavior support strategies and their effective and efficient dissemination to educators is of the highest importance.

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