

PRELIMINARY STUDIES: PHASE I FINAL REPORT

ONLINE YOUTH SUICIDE PREVENTION: SKILLS FOR SCHOOL STAFF, PARENTS AND PEERS

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Significance

Youth suicide is a significant problem affecting thousands of adolescents each year. While suicide ranks as third overall cause of death among teenagers, the numbers of adolescents who *attempt* suicide is far higher: approximately 15% of U.S. adolescents surveyed have seriously considered suicide and about 8% have made an attempt in the previous year. For most teens, depression underlies suicidal behavior. Depression has a devastating effect on affected youth and their families and is related to a host of negative outcomes including concurrent and future risk for substance abuse, interpersonal problems, antisocial behavior, and running away. These data on youth depression and suicide underscore the critical role of those who spend time with adolescents in recognizing risk and responding helpfully. Current youth suicide prevention programs for school staff are inadequate. Only one in nine teachers feels confident that they could identify an at-risk student. Because school staff are ill-equipped to recognize and respond distressed youth, the result is that *only* 1% of students in public schools are identified as having an emotional or behavioral problem and are referred to appropriate mental health services. There is an urgent need to equip school staff in the knowledge, skills and sense of efficacy in recognizing and responding effectively to youth at risk. Moreover, given that a school climate emphasizing staff warmth and respect toward adolescents is one of the most significant factors in preventing adolescent suicide, school staff need training in how to promote a positive school climate. In response to the critical need to develop tools for staff training, the central aim in Phase 1 was to develop and evaluate a prototype online youth suicide prevention program with flexible and accessible instructional tools for school staff.

Project Tasks

In Phase I we developed a prototype for school staff. We conducted a feasibility test of this prototype and established a reasonable proof of concept of the entire program's design. We accomplished this in three steps: (1) Develop staff training content with input from content consultants: school staff, parent and student focus groups, and expert key informants; (2) Produce and conduct usability testing for online, interactive, skill-based training materials; and (3) Assess the acceptability, feasibility, and effectiveness of the program with 42 school staff. In the following section, steps in development and evaluation of the Phase I prototype are described.

Task 1: Develop staff training content with input from content consultants; school staff, parent and student focus groups and expert key informants.

Focus Group: School Staff

The *school staff* focus group consisted of 10 representative members of school personnel who received typical in-service exposure to suicide prevention training. Because the staff training was designed for *all* school staff, we recruited representatives of counselors, teachers, educational assistants and classified staff. All attendees were female with a mean age of 49. The average years' experience was 15 with an average of 85% of their workday spent with students. Of the ten participants, only five were aware that they had a gatekeeper program in their high school, and all indicated that they wanted to learn more about their role in youth suicide prevention. School staff provided descriptions of their experiences in supporting distressed students, including examples of interactions and challenges they face in identifying and intervening appropriately with youth at risk. All ten school staff members had dealt with students who may have been suicidal. Staff members were very dissatisfied with the level of training they received and said that they were especially interested in receiving training that included models of the skills they would like to develop, including words to use when responding to youth distress. Staff also noted that, although most high schools have trainings in

¹ Our consultant, John Kalafat, passed away unexpectedly last month. Although Dr. Kalafat reviewed drafts and gave feedback on the program, he was not able to submit his invoice prior to his untimely death; therefore, the hours listed above are an estimate.

youth suicide prevention every 2-3 years, there is no mechanism to extend training to staff who miss the training or come to work in the school after the training has ended. Moreover, even if training is mandated, classified and non-classified staff members don't attend. All staff stressed that ongoing access to alternative forms of training were needed, including written material, or training available online. The training should be brief (30-45 minutes) and accessible to *all* staff members. Training should address dealing "in the moment" with students in distress as well as how to set up a supportive school climate. Staff also emphasized that any form of training should include a group training component as well so that staff crisis contacts can use the materials to hold school wide inservice trainings. School staff participants were paid \$50.

Focus Group: Parents. Parents of *secondary-school-aged children* have the opportunity to interact with and observe their children on a daily basis, so they provide important feedback in developing realistic, sensitive and relevant materials depicting teen behavior. Twelve parents of school children aged 13-18 attended a two-hour session. Eleven of the parents were female, one was male. Two parents identified themselves as Latinos and one as African-American. When asked what they perceived to be common signs of depression among teenagers, parents suggested that weariness, withdrawal, acting out and school attendance issues were common indicators. Parents discussed their view of the role of teachers and schools in recognizing and helping distressed youth. Parents felt that schools could be more responsive to students by curbing harassment, enforcing rules, reducing class sizes, providing mental health information and/or classes, peer counseling and beginning to address issues of mental health in early secondary school education (middle school). Parents recognized that teachers are burdened with large classes, and that schools tend to overlook possible problems with students. They expressed the need for teachers who are approachable ("take the teacher hat off"), and who dedicate one-on-one time with students. They suggested that other school staff, such as paraprofessionals, counselors and hall monitors could help take some of the pressure off teachers in order to meet the day-to-day crisis situations.

Focus Group: High School Students. We held a focus group representative of students in a high school setting. Five male and seven female students aged 14-17 attended. As with the parent focus group, students informed us about issues around adolescent distress, typical situations, and varying mood states so that we could create realistic, informative and engaging instructional material. Five of the students identified themselves as Euro-American; two as African-American; two as African American-Native American; two as Eurasian, one as Asian. Three identified themselves as Latino. The group discussed some of the issues that contribute to depression among youth today. They spoke of a variety of different pressures that come from friends, family, school and the media. They cited girlfriend/boyfriend relationships, friendships, family life (especially when there is abuse, death or a divorce in the family) and hormonal changes as triggers for depression. Students also thought alcohol and drug use were factors. Participants talked about common signs of depression such as being less talkative, giving short answers, becoming less social, eating more or less food, a weight change, and not looking someone in the eye when talking. Other signs included: loss of goals, changes in friendships, changes in clothes, getting mad more easily, changes in activities (dropping thing they did in the past, like sports, ballet, etc.), changes in routines, changes in make-up (too much, or not using any), and making a dramatic change (like shaving off a nice head of hair). When asked about what school staff could do to help distressed youth, the majority of the participants suggested that earning student trust and making a connection with students was essential. This could be done slowly, by getting to know students, by being honest, available, and "always letting students know they can talk to them." Students want to talk to someone they can trust. If a teacher noticed a change in a student and asked how he or she was doing, the student might "feel embarrassed," but also might "feel nice, like someone cared." How students feel about being approached depends on how they feel about the teacher. They suggested a number of things they thought staff should not do, such as telling the student's parents without the student's permission. When asked, students said staff should only go to parents if it's "really bad" or the student is suicidal. Talking is okay, but "prying" is not. If the student knows the teacher it might be okay, but the teacher shouldn't "interrogate" the student.

Key Informant Interviews. We are interested in creating a training that fits easily into existing suicide prevention gatekeeper programs used by school systems, is user friendly for staff and/or trainers, and is found to be engaging by consumers. To broaden our range and receive input on the program's systemic fit, we conducted interviews with four expert key informants. The key informants included the Lane County Suicide Prevention Coordinator, the secondary school Youth Suicide Prevention Coordinator and trainer, a high school "suicide crisis contact" and a high school principal. These key informants make decisions for schools regarding staff training and are in a unique position to inform the development of this curriculum. Key informants agreed that school staff need more training in youth suicide prevention. Training for secondary schools needs to be flexibly designed: because schools only hold trainings every two to three years, staff who miss the training or are hired after the inservice do not receive the training. Moreover, classified and non-classified staff members (including cooks, custodians, administrative staff, etc.) typically do not receive the training at all. Key informants were enthusiastic about an online program, but also noted that group-based multimedia training

materials are needed for inservice trainings. Key informants emphasized that it was critically important to have a staff gatekeeper training program in place before including parent and peer components because the staff program would create the infrastructure needed to support parent and youth components. Key informant participants were paid \$75.

Implications and Conclusions. Parents, adolescents, school staff and key informants agreed that there is a pressing need for school staff training in youth suicide prevention. Staff indicated that they felt unprepared to deal with distressed youth. Staff were unclear about what to look for, how to approach and respond to a student in distress, and were uncertain about what resources were available within and outside of the school setting. While staff believed that a group meeting would be a helpful learning venue, they indicated that flexible, accessible tools were needed. Staff overwhelmingly endorsed interest in self-instructional resources that allowed for learning in brief sessions. Conversations with all groups underlined the critical importance of school staff accessibility.

Draft Content Outlines. Next, the in-house development team (Principal Investigator, Co-Investigator, and Lead Developer) determined learning objectives for the program, drafted a program outline, and created a design for program delivery. This effort had the ultimate goal of achieving an engaging learning experience that imparts knowledge, motivation, and skills using compelling storylines, modeling situations, right way/wrong way lessons, and interactive learning exercises (quizzes, branching situational vignettes, etc.).

Consultants' Role. We had three expert consultants: John Kalafat was an expert in youth suicide prevention and had specific expertise in the development and evaluation of youth suicide prevention programs, so his input on content and design of the program was critical. Diane Ryerson, the director one of the leading gatekeeper programs (SAFE:TEEN) has developed, implemented and evaluated school-based suicide prevention programs for over 20 years. Diane informed us about the needs and desires of school staff, and with her years of experience gave valuable input in how to design instructional features that would be accessible and usable by consumers of the program. Damien Sands is the Lane County Suicide Prevention Coordinator. With his experience coordinating activities among schools and agencies, Damien's feedback informed issues related to connecting schools with community resources and the needs of school staff. Damien also served a key role in mobilizing school administrators for staff recruitment. Consultant review was an iterative process that took place at two different stages. First, we presented the draft outline of program content and design for feedback. We incorporated this feedback into the Phase I prototype. Consultants also reviewed the prototype during the final evaluation phase (see Specific Aim III). One of our consultants, John Kalafat, passed away unexpectedly last month. This was a tremendous loss. Diane Ryerson worked very closely with Dr. Kalafat in developing and evaluating youth suicide prevention programs so we will derive this expertise from her in Phase II, and we have brought in a new consultant to inform on content, Dr. Peter Gutierrez (see relevant experience section and letter of support from Dr. Gutierrez).

Task 2: Produce and conduct usability testing for online, interactive, skill-based training materials.

Production of media components of the proposed program was realized along separate but coordinated tracks. An iterative design approach that used a "test and make changes" process was used for developing all media assets. The production team, headed by the Principal Investigator, was composed of a Technology Coordinator and a Multimedia Developer. The production of *media assets* (e.g., *real-time video, graphics, and animation sequences*) was the responsibility of the Multimedia Developer, who led a team that included a Production Coordinator, a Graphic/Animator Artist, a Camera Operator, an Editor, an Audio Engineer, as well as other production staff. Video footage was be filmed in a real school location. The cast was selected to reflect a balance of ethnic and racial diversity, and was recruited from a professional talent pool in Eugene and Portland. Post-production took place at IRIS Media's studio. The Editor and Graphic Animator/Artist handled key post-production tasks using a digital nonlinear workstation to edit video and animated segments. We produced a layered soundtrack of dialog and natural sounds, narration, music, and sound effects. The Principal Investigator and development team staff viewed a digital offline version and provided feedback on the presentation prior to finalizing it. To prepare the interactive web application, video sequences were encoded as QuickTime, Windows Media and Interactive Flash video file formats. The *interactive components* were the responsibility of the Instructional Designer and Technology Coordinator and used standard web design tools. Interactivity was handled through interactive Flash technology. A separate, secure web site accessible only to study subjects (see Experimental Design section below) was created to handle the online assessment activities. The assessment questionnaires, containing video vignette stimulus and CGI scripted CGI scripts measures, was developed by the Principal Investigator, Co-Investigator, and Technology Coordinator. The assessment materials were extensively pilot tested in-house.

Usability Testing. Once program prototypes were completed, project staff conducted a *usability test* of the online program and assessment materials to ensure user-friendly navigation. Virzi (1990, 1992) has

demonstrated that five participants can uncover approximately 80% of an application's usability problems. We recruited five participants in the Eugene-Springfield area, including school staff, and had them complete a usability protocol as they tried out the program. Users also completed the Questionnaire for User Interface Satisfaction (QUIS) 7.0 (Chin, Diehl, & Norman, 1988). Participants gave us extensive feedback about program use. Problems detected during the usability trial were remedied. Participants in this usability evaluation were paid \$100.

Task 3: Assess the acceptability, feasibility, and efficacy of the program

The focus of evaluation activity in this project was both on formative development and a demonstration of feasibility. Because the program was being created for school staff and youth, we first held focus groups and key informant interviews to examine the needs of school staff. We explored how best to develop a program that not only meets the needs of school staff, but also fits well into existing systems of delivery for school-based youth suicide prevention training. A two panel, pre- and post-training design was employed to assess acceptability, feasibility, and effectiveness of the online program for training school staff personnel. In addition, we conducted an evaluation with a panel of individuals specially trained to handle suicidal behavior in the schools, "suicide crisis contacts." This feasibility evaluation allowed us to examine: a) the efficacy of the materials for improving staff knowledge, sense of efficacy and behavioral intentions concerning strategies for recognizing distressed youth and responding effectively and b) whether the materials are well-accepted by both school staff and suicide crisis contacts.

Participants and Procedures. Potential participants were recruited with the help of our two recruitment allies: Consultant Damien Sands, and our expert Key Informant, Jill Hollingsworth, who coordinates suicide prevention efforts in the secondary schools. Participants were recruited via flyers in the school that described the evaluation procedure and invited access to the online prescreening questionnaire, or to contact study staff via a toll-free number. Potential staff participants were screened using the following criteria: (1) high school staff member who spends the majority of their day in the presence of students, (2) works at least half-time in a high school, and (3) has access to a high-speed (broadband, cable, DSL) connection for email and Internet. Members of the "suicide crisis contact" review panel also needed to work in a high school at least half-time and be a designated "suicide crisis contact" for the school. If the staff and contact met inclusion criteria for the study, s/he was invited to participate. Participants completed consent forms online and were given the option of receiving a consent form by mail. Eligible participants were sent an email link to the baseline questionnaire. Within 24 hours of completing the baseline questionnaire, participants were sent a link to the online program and were asked to complete the program within a week. After staff and crisis contacts completed the program, they were emailed a link to the final questionnaire. Staff participants received \$50 for completion of each pre-and-post questionnaire for a total of \$100. Each questionnaire took about 30 minutes to complete. Thirty-seven of the 42 staff completed both the pre-and-post questionnaires (12% attrition). A panel of seven "suicide crisis contacts" participated in the pre-post evaluation panel.

Suicide Crisis Contact Demographics. As noted earlier, the seven crisis contacts worked at least half-time in a high school setting and included four school counselors, one nurse, a principal, and a librarian from a rural school district. The contacts had an average of 21 years experience working in the schools. All were Caucasian and non-Hispanic. All had previously received some form of suicide prevention training.

Staff Demographics. Staff participants represented a broad range of school staff including teachers (52%), secretaries (7%), educational assistants (17%), custodians (3%), campus supervisors (5%), and other staff, including registrar, assistant principals, and a teen program coordinator. Five percent were African-American, 5% endorsed more than one race, and 90% were Caucasian. Eight percent were Hispanic.

Measures

We examined the efficacy of the Phase I training materials for improving staff knowledge, sense of efficacy concerning strategies for recognizing distressed youth, and responding effectively. Accordingly, we assessed staff (a) self-perceived knowledge of issues around adolescent suicidal behavior ($\alpha = .79$), (b) knowledge of specific content from the Phase I program, (c) attitudes toward dealing with adolescent suicidal issues ($\alpha = .75$), and (d) sense of efficacy about the skills presented to effectively recognize and respond effectively to youth who are at risk for suicide ($\alpha = .80$). Please refer to Appendix B for the evaluation measures. To test the efficacy of the program, pre-post paired t-tests were conducted on the outcome measures: staff perceived knowledge, staff tested knowledge, staff attitude, and staff sense of efficacy in dealing with distressed youth. Effect-size calculations are provided to give a relative indicator of how much the intervention influenced the dependent measures, independent of sample size.

Program Efficacy for Suicide Crisis Contacts. Although we did not hypothesize a pre-post change in program efficacy measures for the suicide crisis contacts, we did find medium effects in perceived knowledge (.51), tested knowledge (.75), general attitude toward dealing with adolescents suicidal issues (.36) and self-efficacy

(.63). Because the suicide crisis contacts receive training on an irregular basis, it could be that this basic staff training added to their knowledge and awareness of youth suicide prevention.

Program Efficacy for School Staff. Table 2 presents the means and standard deviations by assessment time point as well as the within-subjects results and effect sizes for all staff dependent measures. Significant and large pre-post effects were obtained for all of the measures.

Table 2. Pre-Post Descriptive Statistics and Paired *t*-test Results on Outcome Measures

Outcome measure	Pre-Training <i>n</i> =42		Post-training <i>n</i> =37		<i>t</i>	<i>p</i> -value	Effect Size
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Self-perceived knowledge	3.1	0.7	4.2	0.6	-9.42	<.001	1.63
Knowledge test	12.2	2.1	15.2	1.2	-8.45	<.001	1.40
Attitudes	4.7	0.9	5.8	0.8	-8.48	<.001	1.51
Self-efficacy	3.1	0.9	4.2	0.7	-11.16	<.001	1.80

Note. Effect size is being reported as Cohen's *d*

Program Utility-Usability – Suicide Crisis Contacts. All seven contacts completed the program. On average, suicide crisis contacts spent 45 minutes viewing the program (range 26 to 101 minutes). Program utility scales were measured on a 4-point Likert scale. 100% of contacts believed the program was engaging (*M* = 3.6, *SD* = .53) and rated the ideas as easy to understand (*M* = 3.7, *SD* = .49), and useful (*M* = 3.4, *SD* = .53). Contacts also endorsed increased motivation (86%) (*M* = 3.3, *SD* = .76).

To measure usability, we used an 8-item usability questionnaire developed by Tullis & Stetson (2004). On a 6-point scale (strongly disagree – strongly agree) with 6 being extremely positive, 86% of the contacts found the website visually appealing (*M* = 4.6, *SD* = 1.1), easy to move from activity to activity (*M* = 5.0, *SD* = 1.5), pages well-designed (*M* = 4.6, *SD* = 1.3), and terminology clear (*M* = 4.7, *SD* = 1.8). Contacts also felt that the site met their expectations (*M* = 4.6, *SD* = 1.7), and they were able to complete tasks in a timely manner (*M* = 4.7, *SD* = 1.5).

Program Utility and Usability – School Staff. All (100%) of staff who began the program completed it. Staff spent an average of 53 minutes interacting with the two modules and associated program materials (range 23 to 142 minutes). Program utility scales were measured on a 4-point Likert scale. 100% of school staff were satisfied overall (*M* = 3.6, *SD* = .49). In addition, 100% of staff reported that the program increased their motivation to connect with distressed youth (*M* = 3.6, *SD* = .49). Ninety-two percent of staff believed that the program increased their knowledge (*M* = 3.4, *SD* = .59), and 100% reported that the ideas in the program were useful (*M* = 3.6, *SD* = .50) and easy to understand (*M* = 3.8, *SD* = .40). On a 6-point scale with six being extremely positive, users found that the content met their expectations (*M* = 5.41, *SD* = .60), the program prototype was easy to use (*M* = 5.4, *SD* = .90), and engaging (*M* = 5.2, *SD* = .62). Users found it easy to move from activity to activity (*M* = 5.5, *SD* = .69) and found the overall organization of the site easy to understand (*M* = 5.4, *SD* = .68). Moreover, users found that the terminology clear (*M* = 5.5, *SD* = .69), and the pages well-designed (*M* = 5.4, *SD* = .63) and that they were able to complete tasks in a timely manner (*M* = 5.6, *SD* = .90).

The program prototype received extremely enthusiastic comments from participants. A number of staff commented on the relevance of the program to school staff. One staff member commented, “[the program] was ... right in terms of our reality, as teachers.” Staff indicated that the topic of suicide is frightening but, “this program helps me be better prepared to deal with students in these situations;” “Wonderful and very valuable. I feel more confident approaching someone I may be unsure about,” and “[the program] helped me to not fear the situation, but rather gave me strategies with which to help students.” Many staff indicated that *all* staff should have access to the program, “now we just need to make sure it gets out to as many people who have contact with youth as possible.”

Staff also noted that the program prototype helped clarify their role and they appreciated the clarity of information in the prototype, “Clear, concise information,” “I liked the pared-down language – not lots of extraneous information – everything seemed important,” “short and to the point – it kept my interest,” “I think the program was excellent. It was concise, which is often a necessity when you are dealing with very busy educators,” “it was incredibly efficient,” “I liked best the length and timing of the individual lessons – not too brief, not too long,” “I feel like I learned a lot in the amount of time required.”

Another quality of the prototype praised by staff is its flexible nature, a must for busy school staff: “allows for the person to proceed at their own pace,” “I really liked the accessibility of being able to do this online,” “It was easy to follow and could be completed at different times making it flexible.” Several staff commented on the ease of use, “self-directed,” “I liked its comprehensive nature, and the fact that technologically it was easy to navigate.” Several staff praised other aspects of the instructional design, “the balance between information

and its repetition is excellent," "I feel like I learned as I took the small tests," "you provided just the right instruction – modeling, naming the concepts, just the right amount of repetition, pacing. I am so impressed!" "I appreciated the immediate testing opportunities with immediate feedback on results."

The majority of staff commented on the high quality of the video footage. Staff appreciated that a wide range of school staff were represented in the videos, not just teachers. They noted that the video scenes were "lifelike," "clear," "realistic," "accurate," and "helpful." Staff noted that the video clips held their interest, the "actors were very believable," and that the "video sound, quality and diversity of students all are excellent." Staff noted how the video modeling helped them learn. They appreciated "having clear examples of students with issues and interactions with school staff. It stuck with me." Another staff member noted: "Giving facts and figures will always be necessary because we need to be well-informed...but a concrete example of something that is done right is something I will remember if I am ever in a similar situation."

Lessons Learned: Approaches for Phase II

1. More Content and Exercises. Staff said they wanted more training: printable handouts, interactive exercises, facts/statistics about suicide and especially more scenarios with video models that would help them *recognize* a youth at risk and *respond* helpfully. Staff also suggested including a poster or laminated card featuring the salient points of the training. The Phase II program will incorporate more video-based modeling. We will also create laminated cards featuring salient training points for School Staff.

2. Information on local school and community resources. A large number of staff requested information specific to their own school system to be included in the program, including information about the school's suicide crisis contacts, local suicide hotline and contact information, and an online version of the school crisis protocol. In Phase II, inclusion of *Administrative Tools* will allow schools and district administrators to tailor the training to their site and control how the training is delivered. The tools also will allow administrators to designate which staff (e.g., teachers, educational assistants, behavior support teams) will receive the training, to add district-specific content (e.g. school rules, assessments, schedules) and designate which components must be completed by the trainee in order to fulfill district standards, to assess proficiency (knowledge, efficacy, etc.), and to issue certifications or provide other incentives for completion (see section - *Tailoring Training to the School*). *Admin Tools* also allow program implementers to receive staff-generated journals, track individual user usage (time spent interacting with the online program, module completion, and assessments results), and set up automated emails that reconnect user with training material over time – see *Behavior Change Maintenance* section).

3. Materials for Group Inservice Trainings. Staff and suicide crisis contacts in particular asked for support materials to deliver the program in a group format. Ideas included: a print guide, scenarios for role-plays, a PowerPoint presentation, laminated tip cards for staff, and a DVD of video scenarios with a guide for using them in training. The Phase II program will have a trainer's package for group sessions that will contain all of the features recommended above. For more information on this component, see section *Training Package for Inservice*.

4. Mechanism for goal-setting, tracking progress. Given the busy nature of the school setting, staff asked for guided steps in developing skills in recognizing and responding effectively to youth at risk. In Phase II, we will include a journaling feature that will guide users in setting one small goal with achievable action steps after each module. Users will be asked to "try out" their action steps and post how it went on the expert-moderated online forum (see Opportunities for Peer Support, item 6).

5. Opportunities for Peer Support. Staff indicated that they would welcome an opportunity to share information, resources, and experiences with their peers. Participants noted that such a resource would have to be built in to the program due to the business of school staff. In Phase II we will include an online discussion forum. Dr. Jones, one of the Principal Investigators on this project, and IRIS Media, have developed an online forum and demonstrated feasibility in a separate NIH-funded program for divorcing parents. We will include this feature in our Phase II program as part of a carefully crafted instructional design, integrating the journal and forum in a step-by-step skill building process. This feature is described further in the section entitled, *Innovative Online Delivery Platform*.

6. A Process for Review. Several staff commented that a built-in mechanism of review would be helpful in maintaining new learning and skills, suggesting periodic "review sessions." A feature of our Phase II program, *edCLIPS*, will enable district administrators and trainers to schedule review sessions, customized to the needs of their school. See *Promoting Behavior Change Maintenance* section.

7. A Prevention Focus. Participants in our focus groups (parents, youth and school staff), and expert key informants emphasized the importance of intervening as early as possible with youth and school staff, with some suggesting designing this program for middle school staff. We couldn't agree more that intervening as early as possible is important. Unfortunately, at this time, many middle schools do not have the infrastructure in place (including a designated crisis team, protocols and procedures for crisis situations) to successfully

implement the proposed program. Given the importance of the topic, however, we are exploring other avenues for inclusion of this important subject matter in the middle school setting.

8. Recruiting a Diverse Sample. It is critically important that we recruit a diverse range of school staff, administrators and suicide crisis contacts so that we can create a program that is truly useful to a wide range of high school staff. In recognition of the importance of this, in the Phase II study, schools will be selected to ensure racial/ethnic composition of at least 25% Hispanic and 25% African American participants; a randomized blocking procedure will be employed.

Relevant Experience

Laura Backen Jones, Ph.D., Co-Principal Investigator, earned her Ph.D. in developmental psychology with a special emphasis on prevention and early intervention. For the past 15 years, Dr. Jones has created curriculum and provided training for local family service organizations and schools. Dr. Jones trained with Dr. Thomas Dishion, an expert in adolescent development. Dr. Jones coordinated and delivered mental health services to children and families for the *Child and Family Center (CFC)*, a University of Oregon intervention program. The position included establishing a Family Resource Room in a middle school setting, teaching parenting skill groups, consulting with teachers and school counselors about children, serving as a liaison between families and schools, conducting family assessments, and connecting families to community mental health services as needed. Dr. Jones is a consultant in adolescent development for staff at the Parenting Helpline (funded by United Way). In addition to providing direct services to families, Dr. Jones also co-wrote *Parenting: the First Three Years*, an intensive 30-session, multimedia, peer-reviewed group-based parenting program for parents of young children (<http://xnet.kp.org/permanentejournal/SUM07/parenting.pdf>). Dr. Jones will assume overall administrative responsibility for the project, including formative development, instructional design, content integration, programming implementation, video production, budget management, evaluation, and data analysis. She will also be responsible for managing the staff and work environment in which the execution of the project will take place, including the provision of adequate resources to accomplish all project tasks. She will be responsible for communication with NIH and submission of annual reports. She will also assume fiscal and administrative management including maintaining communication among PIs and key personnel through weekly meetings.

John R. Seeley, Ph.D., Co-Principal Investigator. Dr. Seeley is currently a Research Scientist at the Oregon Research Institute. He has more than 21 years of experience in conducting epidemiological and intervention research on adolescent mood disorders (Seeley, Rohde, Lewinsohn, & Clarke, 2002; Seeley & Lewinsohn, in press). He also has extensive experience as a methodologist in research on the epidemiology and assessment of adolescent suicidal behavior (Lewinsohn, Rohde, & Seeley, 1996; Rohde, Seeley, Langhinrichsen-Rohling, & Rohling, 2003). Dr. Seeley has conducted several formative and summative evaluations of interactive multimedia behavior change programs (e.g., Beauchamp, Irvine, Seeley, & Johnson, 2005; Gordon, Severson, Seeley, & Christiansen, 2004; Irvine, Bourgeois, Billow, & Seeley, 2007) and has published over 130 peer-reviewed articles and book chapters on behavioral research. Dr. Seeley will assume overall scientific responsibility for the project. He will act as content expert and will assist in formative development, review scripts and copy, contribute to the instructional design development and information architecture, develop and implement the research design, and conduct the complex data analyses.

Jeffrey Sprague, Ph.D., Co-Investigator. Dr. Sprague is a Professor of Special Education and the Co-Director of the University of Oregon Institute on Violence and Destructive Behavior (IVDB). He has directed federal and state research and demonstration projects related to student behavior and behavioral interventions, school-wide discipline, youth violence prevention, alternative education, school inclusion, school-to-work transition and employment, school systems change, and self advocacy. Dr. Sprague's research activities include applied behavior analysis, SWPBS, functional behavioral assessment, school safety and violence prevention, and juvenile delinquency. Dr. Sprague recently received a five-year R01 research grant from National Institute on Drug Abuse to evaluate the effects of a SWPBS intervention in a randomized trial. Dr. Sprague will advise on development of *Relate*, the Phase II training module targeting school climate and infusion of SWPBS in the evaluation of the Phase II program. Dr. Sprague will also play a significant role in mobilizing SWPBS schools to participate in the evaluation of the Phase II program (see letter of support).

Peter Gutierrez, Ph.D., Consultant, is a Psychologist at the Denver VA Medical Center's Mental Illness Research, and Education Clinical Center, and Adjoint Associate Professor of Psychiatry at the University of Colorado Health Sciences Center. Prior to his work at the VA, Dr. Gutierrez was a tenured Associate Professor of Clinical Psychology and Assistant Chair of the Psychology Department at Northern Illinois University. Peter is co-author of the book *Adolescent Suicide: An Integrated Approach to Assessment of Risk and Protective Factors*, and over 40 peer-reviewed articles on a variety of topics related to assessment and prevention of suicide. He is a recipient of AAS's Shneidman Award for outstanding contributions in research in Suicidology and has served as Director of the AAS Research Division. Dr. Gutierrez is an associate member of the International

Academy for Suicide Research and served for four years as a member of the Illinois Suicide Prevention Strategic Planning Task Force, Illinois Department of Public Health. He holds a B. A. in psychology from Winona State University and a Ph.D. in Clinical Psychology from the University of Michigan. Dr. Gutierrez will consult on issues related to content development and implementation. Dr. Gutierrez also has expertise in cultural issues related to suicidal behavior so we will have him review drafts for cultural sensitivity and give feedback as well.

Diane Ryerson, M.S., L.C.S.W., Consultant. Ms. Ryerson is the founder and national director of *SAFE:TEEN*, a comprehensive school-based gatekeeper suicide prevention program in use nationwide for staff, parents, and peers. Diane has been working in the field of suicide prevention for over two decades, and has extensive experience in school-based program development and implementation. Ms. Ryerson has also previously consulted on the development of web sites for the dissemination of suicide prevention information. She speaks nationwide about suicide prevention and has published numerous papers on the topic. Dr. Ryerson will advise on content development and systematic fit and she will also help connect us with SWPBS schools who receive her training for recruitment in the Phase II evaluation study.

A Universal Approach to Youth Suicide Prevention

The proposed approach is a *universal* approach that aims to raise the overall supportiveness and responsiveness of one aspect of the at-risk youths' environment, the school setting. With this approach, the role of the school is critical but limited. All schools are not assumed to possess the resources to treat suicidal students. School staff can, however, enhance their capacity to recognize students at risk and get help for them. Universal approaches can also target protective factors known to attenuate the likelihood that youth will engage in suicidal thoughts or behavior (Institute of Medicine, 1994). Using the SWPBS approach, we will target factors in the school setting known to buffer the risk of youth suicide, including the presence of caring adults and a school climate that promotes students' contribution and sense of connection with their school.

Theoretical Framework: Promoting Self-Regulation for Behavior Change

The program's theoretical framework is grounded in Bandura's Social Cognitive Theory (Bandura, 1986). The following section briefly describes how these models relate to the proposed program content and format. To contribute to the prevention of youth suicide, school staff must: (1) be in a position to identify and intervene with youth at risk, (2) view their role as important, and (3) feel efficacious in their ability to intervene. Staffs' beliefs of personal efficacy affect their orientation toward the problem of teen suicide. Although school staff believe that the identification of a potentially suicidal student is one of the most important things they can do (Lazar et al., 2003), most do not feel efficacious in their ability to do so (Gould et al., 2003). Self-efficacy is defined as the belief in one's ability to organize and execute courses of action required to manage prospective situations (Pajares, 2002). Bandura (1977) postulated that enhanced self-efficacy influences behavior by increasing attempts to perform a task, increasing the level of persistence when encountering difficulties, and enhancing the degree of success in performing a task. Given school staffs' unique position, and the important role they play, it is essential that we equip them with a strong sense of efficacy in identifying distressed youth, connecting with them and providing effective follow up. The proposed program will build school staff efficacy by providing targeted, iterative, skill-based training supported by demonstrations that allow learners to successfully master one skill before taking on new challenges. These successes will increase their expectation of successful outcomes and help build motivation for sustained engagement in the training (Bandura, 2004).

According to Bandura, one of the ways people form their self-efficacy beliefs is through the vicarious experience of observing others perform tasks. Vicarious reinforcement is especially powerful when people are uncertain about their own abilities or have limited prior experience (Pajares, 2002). Evidence from intervention studies indicate that video can be an efficacious method for promoting behavior change, for increasing the rate of social participation, and improving interpersonal skills (Gordon, 2000; Fletcher, 1989; Webster-Stratton, Hollinsworth & Kolpacoff, 1989). Thus, the inclusion of video modeling, a central feature of the proposed program, has significant implications for program success. For this reason, multiple realistic examples of effective and ineffective strategies for intervening will be modeled. Observing others in realistic settings will build confidence in their own abilities to successfully deal with issues themselves (Shunk & Pajares, 2004). Of equal importance, observational learning makes it more likely that school staff will be able to translate their knowledge into skills.

Online Learning. Interactive learning opportunities can be presented with the Internet that allow users to repeat training as often as needed, provide learners with ongoing assistance and feedback, and ensure that resources can be updated on a regular basis to keep information current. It is no wonder, then, that digital technology is rapidly transforming how we access and assimilate information, and that effective use of Internet technology is becoming increasingly critical to adult education (Amidon, 2001; Karchmer, 2000). Internet delivery reduces demands on districts and schools to coordinate, schedule and fund inservice training time for large groups. According to UCLA's Center for Mental Health in Schools, the Internet is emerging as

the single most important dissemination tool for school-based intervention: as of the year 2000, 100% of public schools were connected to the Internet, with 86% of public secondary schools utilizing high-speed Internet connections (National Center for Educational Statistics, 2001). As a result, it has become the primary way that school staff access information and resources (Center for Mental Health in Schools at UCLA, 2004), and thus is an ideal medium for school-based staff development. In addition, Internet-based peer support networks have grown in number and popularity in recent years; such interventions also hold significant promise as tools for increasing staff peer support, an important aspect of professional development (e.g., Garet, Porter, Desimone, Birman, & Yoon, 2001). Online delivery also expands professional development opportunities for rural educators, who experience professional isolation and lack of access to professional development opportunities. Currently, rural schools serve over 40 percent of the nation's students, but receive only 22 percent of federal education funding (<http://www.nea.org/rural/index.html>).

Interactive Multimedia Meets the Needs of Adult Learners. There is strong evidence that interactive multimedia is an effective teaching medium by supporting adult learners' needs (Gordon, 2000; Webster-Stratton et al., 1989). By using varied forms of presentation, interactive multimedia programs can appeal to a wide audience while meeting the needs of varied learning styles (Smith & Woody, 2000). Because individuals can view programs in almost any setting and at a time most convenient to them, interactive multimedia affords unparalleled flexibility in training. Beyond its teaching appeal, such programs can make training more accessible, substantially reduce delivery costs, and allow participants greater flexibility in the learning process. The combination of these characteristics allows for repeated or extended exposure to the material, a factor linked to longer-term retention of knowledge and skills (Amidon, 2001).

Professional Development in Education. Professional development is the standard mechanism by which school districts provide ongoing training for teachers and other staff. Although in-service activities (i.e., conferences, presentations, and workshops) are the most common staff-development practices, serious limitations exist. As is the case with typical staff gatekeeper trainings, professional development often fails to provide significant and durable changes in skills (Bransford, Brown, & Cocking, 2000; Guskey, 1986; Showers, Joyce, & Bennett, 1987; Smylie, 1988; Sparks & Hirsch, 1997). One-shot presentations offer a lot of theory and information, but relatively few school staff are able to make changes in their behavior after attending a workshop (Joyce & Showers, 1995) (see Table 3). Joyce & Showers (1995) found that of teachers who were exposed to a training that only presented theory, 85% showed gains in understanding but only 15% demonstrated a gain in skill. With the inclusion of modeling, a slightly higher percentage of teachers showed gains in skill. When participants were able to practice the skills modeled and receive simple feedback on their progress, the percentage of teachers showing gains in skill jumped from 18% to 80%. When peer coaching was added, the percentage of teachers who showed gains in skill application increased to 90%. This evidence suggests that the addition of opportunities for practice and ongoing connection with peers has a substantial effect on whether staff will be able to apply what they learn from a training program. In our focus group, school staff expressed a strong desire to communicate with peers about their experiences in interacting with distressed youth. A key feature of the proposed program is to connect staff to an expert-moderated online community where they are encouraged to share support, information and feedback. Inclusion of this feature will reduce social isolation and give staff the benefits of peer support. The online community forum would give school staff opportunities to interact with their peers, sharing their experiences and ideas for handling situations, and connecting each other with helpful information/resources.

Table 3. Effects of different forms of staff development training

Components of training concept	Levels of Impact	
	Understanding	Skill Application
Presentation of Theory	85%	15%
Modeling or demonstration	85%	18%
Practice with feedback	85%	80%
Practice with peer coaching	85%	90%

Instructional Design. Based on our experience from previous Internet-based interventions, we will use a graphic user-interface that is appealing and easily for staff to navigate. The site will be menu driven using the mouse and icons to minimize the need for keyboarding skills and audio to reduce literacy needs. In addition, all text elements in the program will have optional narration in order to reduce literacy requirements.

In designing the computer intervention, we will be guided by research relevant to facilitating self-regulated learning. Key structural elements,

consistent with these principles include: (a) judicious review wherein previous material will be reviewed at the beginning of each session, earlier concepts will be revisited in subsequent modules, varied examples to promote generalization, and homework to provide practice; (b) conspicuous and integrated strategies in which the component steps of each skill are explicitly presented and learned before they are integrated; and (c) mediated scaffolding, defined as providing guidance, models, and feedback to the learner which is faded as

mastery is achieved (Kameenui & Carnine, 1998).

An Internet site can be designed with information architectures (IA) that contribute to the goal of health behavior change (Danaher, McKay, & Seeley, 2005). Our approach to IA will be to: a) guide staff through task completion (tunnel IA design) and b) provide free access to ancillary components (printable tip sheets, glossary, and links to additional resources on the World Wide Web) at any time. Users will be required to complete the main lesson and support components (interactive self-assessments, set action plan specific to topic in journal, report on experiences using new skill on online forum) in one module before proceeding to the next. The tunnel IA design is particularly appropriate for a program that guides participants through a series of steps that build upon each other in a logical manner. It is also important to note that participants would be able to review any content they have already seen in previous sessions (e.g., when in Module 2, participants would be freely able to review all content they had already covered in Module 1). At each subsequent session, a review of the previous material will be presented at the beginning, and concepts presented in the earlier modules will be revisited in subsequent modules. Other key aspects of our structure include the use of varied multimedia materials and presentation approaches to maintain participant interest.

We anticipate that the program will include one (1) administrator/ crisis suicide contact module and three (3) staff modules with activities in each module that will entail about 45 minutes of interactions, but access to current and past sessions will be unlimited. Regardless of the module length, participants will be free to complete as little or as much as they like at each sitting. We anticipate the sessions being divided into small content/ practice blocks such that participants can do frequent shorter visits than viewing the weekly session in its entirety.

Phase II Program Content

Based on feedback we received from the suicide crisis contacts and school staff, we will expand the *Recognize* and *Respond* modules to include many more examples of youth at varying levels of risk and more examples of how to effectively connect with students at these different levels. In addition, we will incorporate more interactive exercises in each module to promote skills, a journaling function, and an expert-moderated online discussion forum for school staff. We will also add a new module targeting school climate. Please see expanded description of these additional features in the *Innovative Online Delivery Platform* section below.

The proposed Phase II program *Skills in Youth Suicide Prevention: Online Multimedia Training for School Staff* will be an online training resource for staff intended to complement existing gatekeeper programs. The program is meant to be used by individual end-users, although the staff training materials will also be available in linear form (DVD and print) with a training package for group presentation by trainers. Content material will be grounded in Social Cognitive Theory, and will be developed in collaboration with Peter Gutierrez, Ph.D., a recognized expert in suicide prevention with specific expertise in cultural sensitivity, and President of the *American Association of Suicidology*, and Diane Ryerson, director of *SAFE:TEEN*, one of the most widely used gatekeeper program in the U.S., and Jeffrey Sprague, Ph.D. one of the developers of SWPBS. The program will consist of four primary modules, each with supportive instructional tools. Content objectives for each module will undergo review by our consultants and key informants during Phase II and content will be created based on their input. Possible content for each of the modules is described below.

Module 1: Implementation Guide. This module contains a guide for setting up a school environment that sensitizes school staff to recognize youth in distress and respond effectively. Administrative tools will be included that aid program implementers in supporting staff training compliance. Content will be created in collaboration with our consultants and expert key informants representing school district administrators, crisis team coordinators, and other key staff who would be responsible for disseminating and managing the program. Program content will include templates for establishing policies and procedures and building a community resource list, a grid for responding to students and their parents at different levels of risk, and training in engaging and supporting parents and students through the referral process. Video sequences will be used to model action plans for helpful and appropriate referral. For example, we will demonstrate skills for intervening by presenting a video vignette showing how to develop an action plan when a staff member does identify a student at risk. Other additional content will include: steps in creating a Crisis Response Team, Postvention strategies, and an Implementation Fidelity Checklist.

Module 2: Relate. Material in this module will be grounded in universal principles of *School Wide Positive Behavior Support* (SWPBS). We will work with our Co-Investigator Jeff Sprague, one of the developers of SWPBS, to expand the model to include material targeting staff behaviors known to reduce the risk of suicide in adolescent youth. The training will impart practical, easy-to-implement steps in applying school wide positive behavior support (SWPBS) strategies to: (1) Build positive relationships with students, (2) Encourage positive behavior, (3) Respond appropriately to problem behavior, and (4) Communicate effectively with students. In studies of SWPS, these factors have contributed to creating a positive school climate, a predictor of reduced risk of suicide for youth. In the training, we will create more intensive training in aspects targeting youth internalizing behavior (e.g., strengthening relationships and improved communication with youth) and

will also include strategies for promoting student contribution, a known protective factor in youth suicide prevention (Toumbourou & Gregg, 2002).

Module 3: Recognize. This session will build on the Phase I materials developed that demonstrate how school staff can become skilled at recognizing youth at risk for depression or suicide. Content material will include information on teen development and situational vignettes that link a range of student affective behavior to signs of distress, suicidal intention, and symptomology of depression/ mood disorders in adolescents. For example, a series of vignettes depicting particular behaviors associated with a student contemplating suicide or what a potentially suicidal student might say will be portrayed. Intended learner outcomes are: an improved ability to identify signs of distress/suicidal intentions in youth, and an enhanced sense of efficacy in recognizing youth at risk (see Appendix A and C for Phase I *Recognize* Module content and video segments).

Module 4: Respond. Session content be expanded from the Phase I module, emphasizing the staff's critical role in responding to youth in distress. Staff will receive training in the skills needed to approach students in distress and in helpful and supportive ways to respond. Content material will be grounded in an understanding of adolescent development, offering informative video models and training that demonstrates the effective communications skills needed for supporting distressed students and helping them feel connected with school. Using examples and non-examples, situational vignettes will differentiate effective approaches from ineffective ones. The intended outcomes for this session are for staff to increase their knowledge of effective communication strategies and the limits of their role, to practice and improve their skills in responding helpfully with distressed youth, and to develop a stronger sense of efficacy in responding to youth (see Appendix A and C for Phase I *Respond* Module content and video segments).

Training Package for Inservice. Phase I suicide crisis contact evaluation participants and key informants emphasized the need for a group training package to complement the online program. With this package, suicide crisis contacts and administrators have the tools necessary to conduct a school inservice on youth suicide prevention with school staff. A library of DVD vignettes featuring youth warning signs at different levels of risk, and helpful ways for staff to connect with distressed youth will be included with an accompanying print guide. The guide will include information for using the vignettes in training, a Powerpoint presentation for inservice training, and laminated cards that summarize key points for staff to take away from the training. Additional material will be determined in Phase II. Dr. Jones has extensive experience developing trainings in group facilitation. She trains parent educators from across the U.S. for *Birth to Three*, and co-authored a 30-session group-based parenting program, *Parenting: The First Three Years*, that contains an comprehensive Facilitator's Guide. The staff at IRIS Media also has significant expertise in developing Facilitator's Guides for their group-based school staff training.

Innovative Online Delivery Platform

The *Skills in Youth Suicide Prevention: Online Multimedia Training for School Staff* program is delivered on IRIS Ed Online (IEO). This training format encourages active adult participation, individual problem solving, and expert feedback, characteristics of effective instruction that lead to greater skill acquisition than is possible from a lecture presentation (Joyce & Showers, 1995). The feasibility of this approach was established in Phase I (see Final Report). A discussion of the impact of IEO technology and details about the production of IEO components are provided in the Commercialization Plan. Below is a brief description of the instructional path implicit in each module and associated components. Please see Appendix A and C for a pictorial depiction of the online components.

(a) *Video-driven lessons* model youth who are showing signs of risk and effective and ineffective staff responses to issues related youth distress. Racially and ethnically diverse staff members are portrayed in these short model-based video sequences. One or two targeted skills are modeled in each sequence. A motivational component increases awareness of youth depression and warning signs of suicidal ideation.

(b) *Interactive assessments* allow staff to apply knowledge and skills in recognizing and responding to youth in distress in ways similar to real-world situations. Learning will occur through attempts to make sense of the situations with which they are presented, and by choosing strategies to effectively handle problems typically encountered with youth. Mastery of these contextual and problem-based scenarios will contribute to self-efficacy (see theoretical framework). Self-assessments and "errorless knowledge checks" give users the opportunity to test their knowledge, and receive immediate feedback. Additional assessment features include random question rotation; "save and complete later" function; questions accompanied by pictures/Flash video; multiple choice, yes/no and text field answer options; and percent-complete visual display. The goals of the self-assessment are increased confidence and competence in interacting with youth.

(c) *Interactive mastery exercises* guide the user in practicing newly learned skills. For example, users will engage in simulated online interactions with distressed youth, make choices about correct strategies to

employ, and experience the outcomes of their choices and decisions. The interactive mastery exercises use Macromedia Flash and a Flash Component Application Programming Interface (API) to send personalized results such as individual action plans and graphical user profiles to the IEO site database.

(d) *A journaling tool* prompts the user to plan action steps and monitor progress in meeting these goals. The system tracks user's journal entries by date and time of completion. Journal activity will be stored as part of the user's profile and can be printed by staff and/or administrators depending on configuration.

(e) *A discussion forum* encourages peer support. School staff have the opportunity to share experiences and ideas, and support from others with the expert-moderated web-based community. Users will be guided to implement steps in their action plan using the journaling tool and are then encouraged to use the discussion forum to share their experiences (specific to the action plan) with peers. This approach is intended to promote high comprehension, retention, and a sense of efficacy that fosters action (see theoretical framework).

For the purpose of conducting online research, IEO also contains an *Evaluation tool* that allows for the posting and administration of evaluation surveys (pre and post assessments) and for the collection of response and user activity data (participant responses, number of user attempts, date and time of access, and percentage of assessment completion), which is stored in a data base on a secure server.

Other features of IEO include printable resource materials, including tip sheets underlining key principles, and/or charts that allow users to track progress, a glossary of terms gives simple definitions to technical terms such as depression, suicidal ideation, etc., and EdClips, automated emails that reconnect the user to the material over an extended time after they have completed the instructional program. EdClips are described in the following section.

Countering Limitations to Online Training

Online training offers the potential for expanding the availability of training to staff, as recommended by leading researchers (Guskey, 1986, Joyce and Showers, 1995), but mechanisms for ensuring fidelity and long-term implementation are also needed if the training is to elicit successful, durable, and substantial behavior or system change (Cuban, 1990; Hall & Hord, 2001; Smylie, 1988; Sugai & Horner, 1999). In order to enhance fidelity of implementation and the probability that knowledge and behavior change gains are maintained, the online program will contain an *Implementation Guide* and a set of *administrative tools* (Admin Tools).

Ensuring Training Fidelity. Despite anticipated repeated use by large numbers of staff, content and delivery of the program will remain constant, consistent with recommendations from researchers (e.g., Gresham, MacMillan, Beebe-Frankenberger, & Bocian, 2000; Reschly and Gresham, 2006). The threat to fidelity due to users not completing the training will be offset by an administrative data system contained within the online *Implementation Guide* (IG) that will support staff training compliance and allow administrators to track a user's progress and completion. School administrators, trainers, or school behavior teams will be able to assign training to specific staff members, and track their progress. The IG will use multimedia and printable text resources to provide directions for implementing, monitoring, and assessing the training intervention. Critical components of the IG are guidelines for administrators, or behavior teams who directly support staff efforts, particularly when staff needs to troubleshoot and solve problems. The IG will also contain an *Implementation Fidelity Checklist* for school administrators to help ensure training fidelity. This checklist will be developed along with the program materials.

Tailoring Training to the School. The IG will also provide simple instructions on how to access IEO's content management system, referred to as *Admin Tools*. The tools allow school and district administrators to tailor the training to their site and control how the training is delivered. The tools also will allow administrators to: a) designate which staff (e.g., teachers, educational assistants, behavior support teams) will receive training, b) add district-specific content (e.g. school rules, assessments, schedules), c) designate which components must be completed by the trainee in order to fulfill district standards, to assess proficiency (knowledge, efficacy, behavioral intentions, etc.), and d) issue certifications or provide other incentives for completion. *Admin Tools* also allow program implementers to receive staff-generated journals, track individual user usage (time spent interacting with the online program, module completion, and assessments results) and set up EdClips (automated emails that reconnect user with training material over time – see *Behavior Change Maintenance* section). IRIS Media works extensively with schools across the nation and we have used this approach successfully in the past.

Promoting Behavior Change Maintenance. To achieve a high public health impact, behavior change interventions must include methods for sustaining short-term gains in behavior change (Klesges, Estabrooks, Dzewaltowski, Bull, & Glasgow, 2005). Desired changes are more likely to be sustained if the program is easy to use and requires minimal time and other investments on the part of the participant. School staff were especially impressed with the Phase 1 prototype's *efficiency* and ease of use. Additional recommendations for strengthening maintenance include built-in mechanisms for social support and a means for continuing contact with the participant after the primary training has ended. As noted above, the web forum gives participants

opportunities for social support. To further maximize the potential for lasting behavior change, the program will use an automated email prompting system. With *edCLIPS* program implementers can set up a maintenance schedule for review and/or re-access to the program so that participants can refresh their knowledge and skills. *edCLIPS* will enhance learning by: (1) delivery of frequent, routine, engaging content that users can access at their convenience, and (2) inclusion of multimedia material addressing multiple learning modalities thus enhancing comprehension and retention of information and skills. Ongoing contact with the program via *edCLIPS* will maximize the potential for sustaining gains.

Skills in Youth Suicide Prevention: Online Multimedia Training for School Staff

The proposed program has *strong potential significance* because it will address the problem of adolescent depression and suicide. Although 1 in 5 adolescents experience depression, schools recognize and refer only about 1% of depressed youth to appropriate mental health resources. Given that suicide is the third leading cause of death in adolescence, and depression underlies suicidal behavior in 90% of adolescents, it is important that school staff are prepared to recognize youth at risk and respond effectively. We recognize that websites with facts about suicide prevention are prevalent, so a website for school staff is not innovative per se; however, the proposed program is innovative because it: (1) expands the School Wide Positive Behavior Support (SWPBS) system to target adolescent internalizing behaviors, (2) includes the SWPBS model in *youth suicide prevention*, (3) allows for school branding via administrative tools, so schools can personalize the program, and add their own components, including links to community mental health resources, (4) incorporates an *Implementation Guide* that will help behavior support teams and school administrators develop an infrastructure to support maintenance of the program, and (5) has instructional tools for skill-building, including an expert-moderated online forum, that will give school staff opportunities to share their ideas and experiences with youth, and *edCLIPS* for maintenance of knowledge and skills.