Part 3

Programmatic Efforts

THE ZUNI LIFE SKILLS DEVELOPMENT CURRICULUM: A COLLABORATIVE APPROACH TO CURRICULUM DEVELOPMENT

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This article describes the development, implementation, and pilot evaluation of a skills-based suicide prevention curriculum for the Zuni Pueblo. The Zuni Life Skills Development curriculum takes a skills training approach to reduce the risk factors for suicide among Zuni adolescents. This article presents some background information about skills training and its applicability to Indian cultures and suicide prevention. The process by which curriculum development was initiated and maintained is described, with an emphasis on the collaborative efforts between the Zuni community and Stanford researchers and the challenges faced by each to develop a culturally sensitive, effective curriculum. Results of the process and outcome evaluation of a pilot test are described in detail as background for the reasoning behind modifications made in a revised curriculum and evaluation design that met the needs and concerns of the community, school, and researchers. An overview of additional efforts in the community to develop a more comprehensive approach for suicide prevention that moves beyond a curriculum-only intervention is presented.

Skills Training Focus

Skills training, a personalized intervention based on social-learning theory (Bandura, 1977), has gained widespread acceptance as an

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alternative to traditional therapy. A skills training approach is based upon the view that people learn both effective and ineffective behavior patterns by experiencing the consequences of their actions and by observing the behavior of others.

The behaviors that become recurring aspects of people's repertoires are those that are socially reinforced in a manner meaningful to their phenomenology (Eisler & Frederickson, 1980). People who observe ineffective models or who are reinforced for nonadaptive behavior are unlikely to develop the skills necessary for effective living. Similarly, those whose environment does not reinforce or permit the development of adaptive behavior — as in the case of cultural oppression — will lack fundamental skills.

The skills training model for teaching new adaptive behavior relies on four fundamental components: (a) providing a person with information about the helpful or harmful effects of certain behaviors, (b) modeling target skills, (c) rehearsing behavior for skills acquisition, and (d) providing feedback for skills refinement.

This model lends itself to numerous applications (Hollin & Trower, 1986), and extensive studies over the past 20 years have demonstrated its high degree of versatility and effectiveness with diverse groups. Skills training has been used by counselors and educators to help ethnic minority groups and women achieve greater influence over their lives and their environment (see the work of Engels, 1984; Jansen & Meyers-Abell, 1981; and Schinke, Holden, & Moncher, 1989). Such programs focus on enhancing cognitive and behavioral skills necessary for coping effectively with affective arousal, stress, and negative states (Felner & Felner, 1989).

Counselors and researchers have found skills training useful in working with American Indian adolescents to reduce drinking behavior (Bach & Bornstein, 1981; Carpenter, Lyons, & Miller, 1985; Gilchrist, Schinke, Trimble, & Cvetkovich, 1987; Schinke et al., 1988) to reduce tobacco use (Schinke, Moncher, Holden, Botvin, & Orlandi, 1989; Schinke, Schilling, Gilchrist, Ashby, & Kitajima, 1987), and to aid in recovery from sexual abuse (Ashby, Gilchrist, & Miramontez, 1987). It has helped Indian adults improve parenting practices (Bigfoot, 1989), assertion skills (LaFromboise, 1983a; LaFromboise & Rowe, 1983) and other skills related to the professionalization process (e.g., self-esteem enhancement, career planning, and financial management).

Skills training has several features that facilitate intervention with American Indians that stem from the flexibility of the approach and its inherent potential to offer interventions that are culturally appropriate in both style and content. The approach lends itself to collaboration between community members and intervention developers to determine socially appropriate goals for the intervention (this could include the maintenance of certain indigenous beliefs and skills as well as the acquisition of select mainstream skills). Skills training allows the community to define the

target problems to be solved (e.g., suicide attempts, substance abuse, child neglect) and the type of behaviors deemed appropriate for each situation (e.g., coping and helping skills, refusal skills, parenting skills). Skills training also lends itself to prevention efforts because it can be used to develop skills and competencies prior to the manifestation of behavioral problems or deficiencies (Schinke, Schilling, Palleja, & Zayas, 1987). Specific appropriate aspects of skills training with American Indian clients include the extensive use of (a) modeling in small group settings, which is compatible with Indian styles of helping; (b) role modeling, which is a major source of learning in Indian cultures; and (c) community gatekeepers in the design and implementation of training programs, which is consistent with and supportive of the cultural structure.

In recent years, skills training has been applied to nonclinical areas such as education, business, and communications and has expanded beyond the acquisition of a few targeted behaviors to the maintenance of social competence across the whole life span. Examples of successful, educationally based social competence training programs include Interpersonal Cognitive Problem-Solving Training (Shure & Spivack, 1982), the Yale-New Haven Social Problem Solving Program for Young Adolescents (Weissberg, Caplan, & Bennetto, 1988), and the Yale Child Study Center Primary Prevention School Project, developed by James Comer (1980). Although these programs were initiated to address the needs of a particular age group or skill area, they eventually were implemented across the education curricula from preschool through high school. Programs of this nature have been related positively to gains in intellectual capabilities and healthy adjustment in school settings (Cartledge & Milburn, 1980; Cauce, Comer, & Schwartz, 1987; Deluty, 1985).

Personal and social skills training programs recently have been applied to diverse adolescent prevention programs, especially in school-based settings. These programs have focused primarily on the enhancement of competence (e.g., coping skills, problem-solving skills) or on the reduction of at-risk behaviors (e.g., smoking, unsafe sex). Outcome data from these preventive interventions have been promising, with some positive effects reported for every program (Compas, Phares, & Ledoux, 1989).

Adolescent suicide prevention is one area in which the skills training approach has not been applied in a classroom setting. Most suicide prevention curricula or school-based programs focus primarily on teaching information about suicide, detecting risk factors, referring at-risk students, and developing crisis intervention techniques. Few, if any, strive to change the risk factors related to suicide through personal and social skills enhancement. The success of the skills training approach in other adolescent risk behaviors suggests that it may be an effective approach for suicide prevention as well. This evidence of effectiveness coupled with the compatibility of skills training to Indian culture makes this approach

especially appealing for the current curriculum development and research project undertaken in the Zuni Pueblo to reduce adolescent risk factors for suicide.

Initiation of Curriculum Development

In 1986, the Pueblo of Zuni, New Mexico, became increasingly concerned about rising rates of suicide and their perception that the youth were losing touch with Zuni traditions. Concerned leaders initiated a prevention program that they believed would help reduce the stresses and factors attributed to causing suicidal behavior. For the Zuni, the rising suicide rate was an especially distressing phenomenon, since suicide — and even thoughts of it — is forbidden in traditional Zuni culture (A. Seowtewa, personal communication, March 19, 1987).

The superintendent of the Zuni Public Schools sought assistance from Stanford researchers in the area of youth suicide prevention, initially requesting training for the Zuni School District staff on suicide prevention. Researchers responded to the request but also warned that brief, in-service delivery by outside consultants would have limited effectiveness in preventing suicide.

Eventually, consensus was reached that a new suicide prevention school curriculum should be developed to provide a comprehensive, long-term approach to the problem. A graduate student from the anthropology department at Stanford University spent the summer of 1987 at Zuni reviewing existing suicide prevention training programs, preparing a suicide prevention workshop, and meeting with Zuni leaders to plan for more extensive prevention efforts. At the start of the following school year, the tribal council, teachers and entire high school student body participated in a 1-week suicide prevention workshop. By December, the Zuni Public School District had negotiated with the School of Education at Stanford to design a suicide prevention curriculum for the high school. Zuni administrators appraised a draft curriculum in May of 1988, and several months later the Health Promotion Resource Center at Stanford joined the curriculum development team to further refine the curriculum and to design an evaluation study of curriculum effectiveness.

Researchers advocated the use of a skills training approach because of the model's previous effectiveness with interventions for related problems in Indian communities. Information about the symptoms and warning signs of suicide, along with the roles of substance abuse and stress in the development of suicidal feelings, could readily be presented using the skills training format. Cognitive and behavioral skills could be imparted during learning activities focused on problem solving, anger-regulation training, and stress management so that students learn to (a) reject drugs and alcohol (coping mechanisms frequently used in Indian communities that co-occur with suicide at Zuni), (b) manage anger

associated with oppression and discrimination, and (c) expand their ways of coping with changeable and unchangeable encounters (LaFromboise & Bigfoot, 1988). This psychosocial skills training approach differed from most school-based suicide prevention programs in which emphasis is placed on students' demonstrated knowledge regarding suicide, not upon their acquisition of coping and peer-counseling behaviors (Manson, Beals, Dick, & Duclos, 1989; Smith, Eyman, Dyck, & Ryerson, 1987).

The cognitive, behavioral, and emotional problems selected for inclusion in the curriculum reflected the experiences and epidemiological reality of Zuni adolescent life. "Cognitive problems" included negative views of self, the world, and the future. The primary "behavioral problem" targeted was self-destructive action as a coping response (seen as "normal" to many Zuni adolescents) to immediate problems as well as to long-standing life adversities. "Emotional problems" included depression, restraint of emotions, reactions to family instability, or isolation and acculturation conflicts.

Components of the Pilot Version of Zuni Life Skills Development (ZLSD) Curriculum

The ZLSD curriculum included components fundamental to effective adaptation and personal/social competence: communication skills, problem solving, and stress and anger regulation. These skills were combined with standard suicide prevention activities devoted to helping students learn to identify common warning signs associated with suicide, engage in active listening with peers when problems arose, and utilize school and community resources for personal or peer referral when issues of suicide emerged.

The ZLSD curriculum was structured as six major units across 28 lesson plans: information about suicide, suicide intervention skills, communication skills, coping with oppression, anger and stress management, and personal and community goal setting. All lessons were interactive and incorporated situations and experiences relevant to Zuni adolescent life such as dating, rejection, divorce, separation, unemployment, and problems with health and the law. Most lessons included brief written scenarios that described problematic life situations that typical Indian adolescents might face. As learning tools, these scenarios provided a chance for students to employ problem solving and apply the suicide-relevant knowledge that they had learned.

Cultural Tailoring of the Curriculum

From the start, the emphasis of curriculum development was on culturally "tailoring" the curriculum for Indian youth, specifically for Zuni adolescents. It was expected that a culturally tailored curriculum would be seen as more relevant and would therefore have more impact on student

attitudes and behavior than a curriculum that did not consider the realities and conditions of Indian life. Researchers were aware, however, that this assumption was subject to testing and therefore decided to develop both a Zuni-specific curriculum and a more generic version. While the generic version contained exactly the same information and skills training as the Zuni-specific version, it lacked specific reference to Indian values, beliefs, conditions, and scenarios that were intended to make the Zuni-specific version especially credible and pertinent to Zuni adolescents.

In December of 1989, the curriculum was distributed to Zuni High School language arts teachers for their use in a pilot test. Up to this point, curriculum developers had worked in relative isolation from the Zuni schools and community, but over the next year a great deal of collaboration occurred between Zuni people and developers to create an innovative, sensitive curriculum. Although Indian people were always on the curriculum development team, input from Zuni tribal members and schoolteachers was essential to the specific tailoring process and to achieving community acceptance for the curriculum.

Extensive sessions with Zuni educators and mental health staff determined their views regarding which Zuni values should be promoted throughout the curriculum, the aspects of Zuni life that might make students feel powerful, and the healthy outlets Zunis already had for managing stress. The issue of students acting as "suicidal persons" in role plays was a major concern. Such a role play was contrary to Zuni taboos about acting on or thinking about attempting suicide. It was decided that Zuni students could participate in the role plays as helpers but that non-Zunis would be brought in to play the role of the person considering suicide.

Teachers also offered many useful suggestions for curriculum revisions that were incorporated prior to the pilot test. For example, they objected to the abrupt presentation of suicide information in the beginning of the curriculum and were concerned that self-esteem lessons had been omitted from the course. Agreements were made to add self-esteem lessons and to reorganize the presentation of units so that the two suicide prevention units would be presented toward the latter half of the curriculum.

A final innovative feature to culturally tailoring the curriculum was to pair Zuni community resource people from social service agencies with teachers to team-teach the curriculum. (Non-Zuni resource people were used with the generic version of the curriculum.) This innovative strategy allowed a greater degree of cultural relevance and content to be infused into each lesson. For example, Zuni team teachers could speak to students in their own language to explain important concepts and were more able than the non-Zuni language arts teachers to relate curriculum materials and exercises to traditional and contemporary Zuni activities, beliefs, and values. Zuni resource people were accessible and more able to answer questions from Zuni parents and community members concerned

about openly addressing issues of suicide. In addition, they brought their counseling skills and other resources to the classroom, which served to increase teachers' confidence that they could effectively teach sensitive curriculum content and skills. This extensive planning and coordination among researchers, Zuni community leaders, and educational staff enabled the development of a broad-based skills training curriculum for pilot testing.

Preparing for Implementation

Teacher Training

Recognizing that confidence in the evaluation of the curriculum effectiveness depended upon fidelity to curriculum methods and content, three training sessions were provided to teachers, other school personnel, and community people involved in the curriculum implementation. Each training program was planned around a model for implementing health education innovations (Joyce & Showers, 1980; Tortu & Botvin, 1989), which suggests that five minimal components ensure an adequately implemented prevention program: (a) background on theoretical foundations for the curriculum and the research; (b) demonstration of new skills to be mastered by teachers, preferably using content from the curriculum; (c) practice of skills; (d) observation and feedback on teachers' performance of the new skills; and (e) coaching of the teachers in the application of new concepts and skills within the classroom environment. The structure and orientation of the training program essentially mirrored the skills building approach of the ZLSD curriculum; thus, the training itself provided the teachers with a practical modeling experience. In addition to these training components, participants were educated about research design, responsibilities, and activities, were given information about adolescent suicide, and received repeated instruction regarding suicide risk identification and intervention.

Previous research suggests that training teachers how to identify, refer, or provide minimal intervention for suicidal students is an especially important component of a comprehensive suicide prevention approach (Mulder, Methorst, & Diskstra, 1989). Because teachers interact with students daily, they are in a unique position to observe students' behavior, detect signs of suicide risk, and offer students the support they might need. Thus, the teacher training programs specifically addressed the suicide prevention and intervention role teachers could play. Each session taught or reinforced their understanding of suicide and their ability to identify and refer students appropriately.

This training was especially important since teachers expressed anxieties regarding their potential involvement with suicide-related problems; indeed, teachers' fears about implementing a suicide prevention

curriculum was a major barrier to their support and participation in this effort. Their understandable concerns about dealing with suicide issues were intensified by the aforementioned community and cultural taboos regarding suicide. They worried about receiving blame from the community or individual students if there was any negative backlash to the curriculum. As previously mentioned, the Zuni community resource persons helped reduce teacher anxiety in this regard. Zuni administrators also invited many nonschool community members to participate in the teacher training. Not only did including community members help to demonstrate community support for the curriculum, it also enhanced community capacity and awareness regarding suicide prevention.

As a final component to teacher training, researchers worked closely with the school, the Indian Health Service (IHS), and community service agencies to identify community resources for suicide intervention and to clarify the referral process. As much as possible, local experts were utilized as trainers to help build collaboration and the awareness that the community had the resources to support teachers and students dealing with the difficult issue of suicide.

On-Site Support

Since distance prevented any member of the research team to be on-site during implementation, Zuni administrators appointed a high school counselor to be the on-site coordinator for the project. Responsibilities of the coordinator were to lead weekly debriefing and support sessions with teachers, to conduct observations of classroom teaching of the curriculum, and to help in some data collection activities. Weekly phone calls from researchers to the on-site coordinator were planned to help ensure smooth implementation.

Pilot Study Evaluation: Winter 1990

The design for the pilot test of the curriculum included two curriculum conditions — Zuni-specific and generic — and a control condition. Pilot evaluation was conducted during January to May of 1990 and involved three teachers of six freshman language arts classes with two classes each per experimental condition. There were 106 students participating at the start of the semester.

Measures

Process Measures

Process measures were collected from both teachers and students on their perceptions of and experiences with the curriculum. The

student survey was constructed so as to select relevant items (when possible) from instruments previously employed in research with American Indians (Geer, 1988; LaFromboise, 1983b; Liberman & Frank, 1980). Students supplied the following information regarding each unit: (a) likes and dislikes, (b) degree of interest, (c) enjoyment or comfort/discomfort, (d) level of personal participation in class activities, (e) assessment of the unit's relevance to life at Zuni, and (f) opinion as to the most important thing they learned in the unit.

Teacher responses indicated their degree of comfort regarding the lesson, suggestions for improvement, and opinion as to the level of student interest in the content. One purpose of the teacher feedback was to assess areas where teachers deviated from the lesson content and methods and the amount of time spent on each lesson. Additional feedback was obtained from the weekly group sessions that teachers attended to discuss curriculum implementation and to seek advice from other teachers on ways of improving their delivery and handling of the lessons. These sessions were audiotaped and analyzed by researchers, who had weekly conversations with the on-site coordinator to respond to problem situations or teacher concerns regarding the curriculum. A final process measure entailed classroom observations that were scheduled to determine the level of teacher adherence to the curriculum and to assess their comfort with the skills training methods of giving information, modeling, behavior rehearsal, and feedback.

Outcome Measures

Outcome measures focused on changes in students in the three experimental conditions. Measures consisted of a student survey administered at the beginning and end of the semester and one mid-semester measure of suicide potential. The student survey included the following variables:

Suicide behavior. Items included questions designed to ascertain if the student had ever attempted suicide, recency of the attempt, number of times attempted, if the student had told anyone about the attempt, and if the attempt had been accompanied by a visit to a medical clinic.

Suicide risk factors. The questionnaire included several variables identified by earlier research as associated with increased risk for suicide behavior, including measures of suicide potential (Suicide Probability Scale; Cull & Gill, 1982); depression (Indian Adolescent Health Survey; Geer, 1988); hopelessness (Beck Hopelessness Scale; Beck, Weissman, Lester, & Trexler, 1974); psychological distress (Symptom Check List-90-R; Derogatis, 1977); stressful life events (adapted from the Social Readjustment Rating Scale; Holmes & Rahe, 1967); and use of drugs (Indian Adolescent Health Survey; Geer, 1988).

Personal and social skills. These items measured skills and behaviors covered in the curriculum that could help students cope better with daily life issues. Most items were created to measure specific curriculum components and included an assessment of anger expression, ways of coping (adapted from Folkman & Lazarus, 1980), self-efficacy for a variety of curriculum-related behaviors, problem solving, and interpersonal communication (items selected from Gay, Hollandsworth, & Galassi, 1975).

Personal and family characteristics. Demographic factors such as age and sex were assessed as were the students' home life — including parents' marital status and drug use habits. Students were asked about their liking for and performance in school, sources and uses of social support, and the degree to which they identified themselves as a traditional Zuni. This latter measure was included at the suggestion of Zuni community members, who assisted in development of the items.

Knowledge of suicide myths and facts. Several items were included to assess attitudes toward suicidal individuals and knowledge regarding suicide and community resources.

Baseline Results About the Need for Zuni Suicide Prevention

Baseline data were available from 77 students. Table 4–1 shows that the sample included 59% females and 41% males; the mean age was 15.6 years. Data indicated that suicide was a significant problem for this group of adolescents, with a full 30% of students reporting that they had attempted suicide at some time in their lives. Fifty-six percent of those who had attempted suicide had done so within the past 6 months; 70% of attempters had tried to kill themselves two or more times; 35% had told no one about the attempt.

Females were significantly more likely to have attempted suicide than males, (χ^2 (1) = 4.68), $p < .03$, a finding consistent with previous research on adolescent suicide that indicates that females are more likely to attempt than males, but males are more likely to complete the attempt successfully (Friedman, Asnis, Boeck, & DiFiore, 1987).

Process Results

Student feedback. Table 4–2 presents a summary of student feedback on the curriculum according to unit topics. The responses indicated that students generally found the lessons interesting, somewhat enjoyable, and clearly appropriate to life at Zuni. They participated in class activities and many felt positive regarding lesson content even when it dealt with issues such as suicide and depression.

In the Self-Esteem Enhancement unit, the majority of students reported that they enjoyed increasing their self-awareness, learning about

Table 5–1
Study Sample Characteristics

Total Sample = 83*			
Males	= 34		
Females	= 49		
Mean Age	= 15.6		
Suicide Behavior	Total Sample (N = 77)*	Males (N = 77)*	Females (N = 46)
Ever attempted suicide	30%	16%	39%
	(23/77)	(5/31)	(18/46)
Of those who attempted:			
Tried within past 6 months	56%	80%	50%
	(13/23)	(4/5)	(9/18)
Attempted 2 or more times	70%	60%	72%
	(6/23)	(3/5)	(13/18)
Told no one about attempt	35%	40%	33%
	(8/23)	(2/5)	(6/18)
Medical visit was needed	13%	20%	11%
	(3/23)	(1/5)	(2/18)

* Note. Towards the end of the survey when information about suicide behavior was solicited, some students opted not to respond, resulting in 6 cases with missing data.

peer views of themselves, reflecting on aspects of the adolescent experience, "being themselves," and participating in self-improvement activities. Some believed that they might be more successful in the future as a result of the self-development exercises.

Most students gave enthusiastic feedback to the lessons in the Coping With Oppression unit and especially liked the lesson that involved their identification of events and skills associated with feeling powerful and powerless. Most enjoyed learning about Indian and student rights in the Zuni version (student rights alone were covered in the generic version). Some, however, acknowledged the importance of rights and empowerment but stated that they preferred not to learn about such matters. Issues of suicide emerged, with some expressing that the unit content was depressing and others indicating that the material helped them learn to accept themselves and avoid suicidal urges.

Regarding the Communication Skills unit, students indicated that they had learned to develop their understanding of human behavior, to be better listeners, to help a friend, and to like themselves more. They felt

Table 5–2
Student Feedback on the Life Skills Development Curriculum

	Unit Topics						
	Self-Esteem Enhancement (4 lessons)	Coping with Oppression (2 lessons)	Communication Skills (4 lessons)	Anger & Stress Management (6 lessons)	Information on Suicide (7 lessons)	Strategies for Suicide Intervention (4 lessons)	Goal Setting (5 lessons)
Questions asked of students	(1=not at all; 9=very)			Form Revised**		(1=not at all; 5=very)	
How interesting were the lessons?	5.83	5.40	5.29	3.55	3.83	4.03	—
How much did you enjoy the lessons?*	5.89	4.65	5.02	—	—	—	—
How much did you take part in class activites?	6.21	5.88	5.36	3.40	3.61	3.79	—
How comfortable were you with the lessons?*	6.67	4.63	5.25	—	—	—	—
How appropriate were the lessons to life at Zuni?	5.12	5.34	5.04	3.45	3.71	3.80	—

* These questions were deleted at the request of teachers after the third unit.

**Form revised to a 5-point Likert Scale after the third unit.

that talking to people about their problems was interesting but difficult and that the peer-helping process made them think more about life. Personal reactions to suicide-related peer counseling began to surface in this unit, with two students indicating on the feedback forms that they would not tell anyone if they decided to commit suicide.

The majority of students felt that they had learned problem solving and self-talk as new ways of controlling anger in the Anger and Stress Management unit. Some expressed an increased awareness of the anger and violence prevalent at Zuni. Others believed that they could apply self-talk strategy to enhance self-confidence and reduce their tendency to worry about things.

Many students felt that they could better articulate the experience of depression as a result of the Information on Suicide unit, with some reporting that they had learned how to talk seriously rather than flippantly about suicide. Many indicated that they were now aware that other people could help them if they experienced suicidal thoughts. One student provided the following disturbing comment on the feedback sheet: "Nothing much as I see [*sic*] in my future years, I hopefully will enjoy my suicide future. Thank you and goodbye." The teachers and the school counselor were informed; the student was closely monitored and offered counseling.

In the latter part of the semester, fewer feedback sheets were completed, presumably due to declining interest with the written feedback process. Responses regarding the Strategies for Suicide Intervention unit indicated that some students believed that they had learned more about the reality of suicide in Zuni and about how to control themselves when they were tempted toward suicide. No feedback was available on the final unit on Personal and Community Goal Setting because of time constraints at the end of the semester.

Feedback that the majority of students were not threatened by the lesson content and appreciated the opportunity to discuss issues such as stress, suicide, and oppression was reinforcing to curriculum developers. The student feedback sheets provided an indirect mechanism for teachers and counselors to gauge student vulnerability as the curriculum progressed. Positive student responses helped to assuage teacher, school board, and community fears that open discussion of these problems could increase negative feelings and harm students. The few student feedback comments regarding the development of "suicide skills" as a result of the curriculum were expected yet still disconcerting.

Teacher feedback. Table 5–3 presents a summary of teacher feedback according to unit topics. Responses from teachers through lesson feedback sheets, weekly audiotaped discussions, numerous phone calls, and a postimplementation site visit indicated that the curriculum was seen as both viable and beneficial. Teachers, accustomed to complete control over lesson plans, initially appreciated the background information

Table 5–3
Teacher Feedback on the Life Skills Development Curriculum

	Unit Topics						
	Self-Esteem Enhancement (4 lessons)	Coping with Oppression (2 lessons)	Communication Skills (4 lessons)	Anger & Stress Management (6 lessons)	Information on Suicide (7 lessons)	Strategies for Suicide Intervention (4 lessons)	Goal Setting (5 lessons)
Questions asked of teachers	(1 = not at all; 9 = very)			Form Revised**		(1 = not at all; 5 = very)	
How much did you enjoy teaching the lessons?*	6.30	5.00	6.44	—	—	—	—
How comfortable were you teaching the lessons?	7.40	5.20	6.44	4.25	3.54	4.50	—
How interested were students in lessons?	6.70	5.20	5.66	3.56	3.66	4.00	—
How comfortable were students with the lessons?*	6.90	5.40	5.66	—	—	—	—
How relavant were the lessons to life at Zuni?	7.44	8.00	8.00	4.75	4.45	5.00	—

* These questions were deleted at the request of teachers after the third unit.

**Form revised to a 5-point Likert Scale after the third unit.

and structure provided for them but later began to fall back on previous teaching styles.

Teachers felt that the scenarios presented in the curriculum helped to raise student awareness about suicide but wanted to postpone addressing suicide issues directly until the curriculum was well under way. This view conflicted with the researchers' position that issues of suicide should be addressed openly as they emerged in the course of implementing the curriculum. For example, as students began to learn about the expression of feelings, the text made reference to the widespread adolescent belief in their own immortality. One teacher felt that this text should be deleted because it might stimulate discussion on suicide.

There were differing opinions among teachers concerning the appropriateness of the lessons on empowerment and rights in the Coping With Oppression unit. Some felt that attention to Zuni historical and environmental antecedents of self-destruction were relevant to the curriculum; others believed that the material would be better suited to a social studies class. Both teachers and students commented most extensively regarding the lessons on understanding anger and the use of self-talk in anger regulation in the Anger and Stress Management unit.

Implementation Issues

Although significant effort was made to keep the experimental conditions distinct, potential treatment effects were diffused by the logistic restraints of (a) only one school in which to test the curriculum and (b) a limited number of teachers who could be spared from required classwork to teach the pilot curriculum. Problems caused by these limitations may have been exacerbated by the fact that the on-site coordinator was unable to fulfill his duties throughout most of the pilot program. Later in the semester, teachers were able to fulfill all duties except the planned classroom observations. Thus, classroom assistance and on-site coaching of teachers during their delivery of the curriculum — essential factors to effective implementation — did not occur, which further weakened the delivery's conformity to the curriculum plan.

The feedback received from teachers spotlighted a number of problems in curriculum implementation. Feedback from the teachers indicated that they did not implement the curriculum in a uniform manner, and these variations decreased the comparability of curriculum content and methods across classrooms. Researchers speculated that some teachers may have avoided fully teaching lessons they found disturbing or believed would make students feel uncomfortable and that the information-giving component of the skills training model was most heavily used with less attention given to the unconventional methods of modeling, behavior rehearsal, and feedback.

Other process reports indicated that implementation did not go entirely as planned. One teacher was new to the school and experienced difficulty in maintaining discipline and class attendance, which limited the intervention's potential impact. Some teachers liked the lessons so much that they introduced various concepts from the treatment classes' curriculum to their control classes. Comments from teachers indicated that they found it very difficult to teach the generic curriculum without infusing "Zuni" cultural material into their instruction; therefore, differences between the two intervention conditions were substantially reduced.

Outcome Results

Despite uneven implementation, a strong effect was found for suicide potential on the Suicide Probability Scale (SPS), the major outcome measure for the suicide prevention portion of the curriculum. This measure was taken just prior to the curriculum units on suicide prevention (mid-semester pretest) and again at post-test. Due to teacher concerns regarding limited class time and the fears that discussion of suicide without instruction in the control classes would be harmful to students, control classes were measured only at post-test.

To increase power during analysis, the two intervention conditions were combined. This combination was desirable also because researchers believed that the cultural specificity intended to distinguish the intervention conditions had become confounded in implementation. Results from one treatment class were deleted because class records indicated that over 50% of the students had missed more than half of the lessons due to extremely low general attendance.

Table 5–4 shows the results of T-test analyses and indicates that intervention classes significantly reduced their suicide potential by post-test; control classes expressed a suicide potential at post-test equivalent to intervention classes at mid-semester pretest. The same pattern was revealed for three of the four subscales that constitute the SPS: suicide ideation, hostility, and hopelessness. However, the intervention group was not significantly different from the control group on the subscale measuring negative self-evaluation.

A similar effect was found in a 2 (intervention, control) x 2 (pre-test, post-test) analysis of covariance on these same groups applied to a modified version of the suicide ideation subscale, which appeared in the pretest at the start of the curriculum and in the post-test measures. The intervention group ($\bar{x}$ = 1.20) had a significantly better suicide ideation score when compared to the controls ($\bar{x}$ = 2.58), $F(1, 54) = 5.12$, $p < .03$, after controlling for pretest differences. Analyses of covariance on all other variables showed no differences between control and intervention classes.

Table 5–4
Mean Values for Intervention and Control Classes on Suicide Potential

Suicide Potential Measure	Intervention: Mid-semester Pretest (N = 36)	Intervention: Post-test (N = 36	Control: Post-test (N = 26)
Total Suicide Probability Scale score	65.3*	56.2	66.8*
Subscales:			
Ideation	16.7a	13.4	16.8a
Hopelessness	21.6a	16.8	22.4a
Hostility	13.5a	10.8	13.3a
Negative Self Evaluation	14.0	15.3a	14.4a

* All differences significant at $p < .01$.

Note. Higher scores indicate higher suicidal potential.

Some Conclusions From the Pilot Results

Results from the curriculum pilot test must be interpreted and analyzed in light of the nonconforming implementation of the curriculum. Several concerns were discussed earlier regarding implementation variations. Any one or combination of these factors could account for lack of significance on the majority of measures. Small sample sizes also must be considered. Power calculations suggest that a minimum of 100 students (or 50 per condition) are necessary for the detection of treatment effects. Pilot sample sizes were reduced as a result of the decision not to include poorly implemented classes and students who did not complete both the pretest and the post-test. However, the consistent finding of reduced suicide potential for intervention classes on the outcome measure and positive unit feedback from students on the process measures were extremely encouraging. The suicide prevention and intervention portions of the curriculum — the original basis for program development — form the basic core of the curriculum and account for the largest proportion of lessons. Significant effects on the outcome measure are likely to be related to (a) thorough consideration of the topic and (b) recency of learning factors (since the suicide prevention units were taught toward the end of the curriculum). Feedback on the process measures indicated that student attitudes were modified about the acceptability of sharing concerns related to suicide with peers, teachers, or counselors.

Data from the pilot test, including the process data, were presented to the Zuni Tribal Council, school board, and high school teachers

and administration. These results supported their beliefs that the life skills and suicide prevention approaches offered in the curriculum were useful and necessary. They agreed to continue supporting efforts to further develop the curriculum that incorporated pilot test findings and to continue the evaluation of a revised curriculum the following school year.

Modifications for the Main Trial

The purpose of a pilot test is to provide an opportunity to make adjustments in the intervention, methodology, measures, and working relationships between research and implementation staff. The pilot test of the ZLSD curriculum provided important information in each of these areas, with teacher feedback and consultation contributing greatly to modifications in the curriculum itself.

Intervention Modifications

The curriculum developed for the main trial is more interactive and provides more background information for teachers than the pilot test version. Additional background information is included in the content section of each lesson, along with more specific guidelines for teachers on the structure and delivery of each activity. Each lesson plan contains specific instructions for conducting modeling, behavior rehearsal, and feedback activities. Before modification, the curriculum allowed teachers to decide how skills training components would be delivered. The explicit guidance of skills training methods provided in every lesson of the revised curriculum should not only increase the uniformity with which lessons are implemented but also ensure that the skills training format is used.

The curriculum, expanded to 43 lessons, is currently presented daily in language arts classes (in contrast to the twice-a-week exposure of the pilot test). New lessons on self-destructive actions associated with sexual behavior and a lesson on dysfunctional families have been included. The section on coping with oppression — revised for greater student tribal identification — was combined with the personal and community goal-setting unit to form a final unit entitled "Planning Ahead for the Future." Substantially more Zuni cultural content was included in the curriculum's current version, and other instructional methods such as the use of unit theme songs and cartoons relevant to lesson content were incorporated to make the material more appealing to students.

Methodology Modifications

Two major methodological changes were made for the main trial of curriculum effectiveness. First, at teachers' suggestion, the new design omitted the generic curriculum. Teachers did not believe that they could

deliver a "culturally generic" curriculum to students, since it is an integral part of their daily role to be responsive to the cultural and personal needs of students. Thus, the design for the main trial includes only two conditions: intervention versus control.

Second, researchers worked closely with the school to increase the study's sample sizes, which was accomplished by including both junior language arts and freshman classes. This change will create a 50% increase in the number of students participating in the main trial compared with the pilot study; however, it does not increase the number of teachers delivering the curriculum, since the same teachers teach both grades.

Modification of Measures

The researchers substantially adjusted the main trial measures to add and delete certain outcome variables. For example, rather than continue with specific items related to ways of coping and anger, the self-efficacy scale was revised to include items about perceptions of coping and anger regulation abilities that were more closely tied to the curriculum. In the main trial, students will identify designated "counselors" — such as teachers, counselors, or other helpful community members — from whom they can seek information and support. Researchers expect that the designation process will raise student awareness about available resource persons and facilitate the help-seeking process; furthermore, researchers will monitor whether students approach counselors regarding particular problems.

In addition, the researchers sought a better balance between the two types of student questionnaire measures: those that more directly measured the abilities, attitudes, and knowledge that the curriculum addressed and the more "clinical" outcome measures such as depression and hostility that researchers hoped the curriculum would affect.

Modification of measures was influenced by both community and school input. Many suggested additional measures to help better understand the potential strengths and skills of Zuni adolescents and the community factors that might hinder or aid the development of these abilities. For example, the Zuni Tribal Council wanted to discover if the more traditional Zuni adolescents had better coping resources for responding to distress and suggested that specific questions regarding parental involvement in the teaching of traditions be added to a measure of traditional status.

Administrators concerned about the high level of students indicating past suicide attempts suggested that researchers add new questions to better discriminate between students who had actually tried to commit suicide and those who had only thought about it. According to Zuni beliefs, imagining a suicide attempt can be construed as having actually

acted upon that attempt, thus potentially elevating suicide attempt scores that would be conventionally coded as suicidal ideations. Teachers and researchers advocated the inclusion of a self-concept measure; the Self Esteem Inventory (Coopersmith, 1987) was subsequently added to the test battery. Other teacher and administrator concerns regarding estimating the curriculum's potential impact on the school were addressed by the addition of several items from the Classroom Environment Scale (Moos & Trickett, 1987).

Modifications to Researcher-Community Relations

Finally, researchers sought to improve community communication, understanding, and commitment both to the curriculum and to the research needs related to its implementation and development. They sought closer coordination with the district and high school administration and were successful in the redefinition of the on-site coordinator responsibilities to provide a crucial link between curriculum implementation and research activities. A Zuni teacher spent 6 weeks at Stanford University collaborating with researchers on revisions of the curriculum, measures, and procedures. This collaboration helped both researchers and implementers understand and accept the others' needs and provided the researchers with an on-site ally during implementation. The Zuni teacher's participation in weekly research meetings also strengthened the school community's voice in curriculum evaluation.

Beyond the ZLSD Curriculum

Besides conducting the main trial of the revised curriculum, the researchers are currently documenting and facilitating other changes occurring at the Zuni school and community system levels. Increased, active community support for the curriculum will lead to a greater positive impact in helping the community confront the issue of youth suicide. Parents' drug and alcohol programs, human and social service agencies, adolescent risk reduction programs, and the local IHS clinic are being encouraged to develop stronger connections by researchers and community members closest to the curriculum development project. These connections are encouraged because if the larger environment does not provide a supportive context in which adolescents can practice the new personal and social skills taught in the curriculum, it will be difficult for the young people to maintain these skills.

Fortunately, school and community efforts are being made to create a more supportive environment. Some teachers have suggested the development of a suicide crisis telephone line, which would require close coordination with mental health professionals at the IHS, additional funding, and probably volunteer staff. Community members also

are considering parent education programs to help parents communicate more effectively with their children and reinforce life skills behaviors in the home environment. Additionally, there is interest in increasing community recognition of suicidal and other self-destructive behaviors. Community education programs and continued training of laypeople and paraprofessionals in suicide prevention and intervention techniques will respond to this need.

Within the school, the researchers have advocated for the development of a school policy on suicide and long-range planning for integrating the ZLSD curriculum into the overall school educational program. The Zuni Public Schools are eager to involve as many students as possible in the ZLSD curriculum, but the most appropriate grade level for initiating the life skills development and suicide prevention curriculum remains uncertain. Some advocate the introduction of these concepts in middle school; others believe that the curriculum should be implemented at all grade levels because the entire youth population is at risk. Data from the local IHS clinic suggest that recent male graduates of high school are most likely to commit suicide and that immediate prevention efforts, therefore, should focus on this population rather than on the total adolescent population at a younger age. One timing approach would offer the curriculum in late middle or early high school and then develop booster sessions for students in upper grades and adult education courses to reinforce the basic ZLSD training.

Finally, researchers plan to investigate if the approach utilized in this study — the specific adaptation of life skills curriculum to the Zuni culture and values — would be effective and appropriate in other Indian communities. After the main trial, the researchers will develop instructions for other Indian communities on how to tailor the curriculum to reflect their unique circumstances and cultural norms. The strategy intends to make the life skills curriculum highly appealing to Indian schools, relevant to their youth, and effective in teaching students basic skills to improve their quality of life.

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