

Cave Springs Public School District—F.I.T. Program

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The Cave Springs Public School District of Bunch, Okla., is a small, rural school district in eastern Oklahoma. The district has two schools serving 273 students, the majority of whom are Native American. Cave Springs developed the Fitness in Teaching (F.I.T.) program to incorporate regular physical fitness activities into students' everyday lives.

The program addressed four goals:

- Change the current wellness trends of students in the school district;
- Increase student, parent, and community participation and physical activity;
- Provide professional development to physical education teachers; and
- Improve students' attitudes toward fitness and exercise in an effort to internalize lifelong fitness patterns.

The F.I.T. program utilized the Coordinated Approach to Child Health (CATCH) program, a school health program that builds an alliance of parents, teachers, child nutrition personnel, school staff, and community partners to teach children and their families how to be healthy for a lifetime. The four CATCH components—the *Go for Health* classroom curriculum, CATCH physical education, *Eat Smart* school nutrition guide, and family “home team” activities—reinforce positive healthy behaviors throughout a child's day and make it clear that good health and learning go hand in hand.

The CATCH program was selected by the school district because it has scientifically demonstrated that school environments can be created that bring about healthy behavioral changes in children. As published in the *Journal of the American Medical Association*, the controlled clinical CATCH trial (1991-1994) demonstrated that CATCH:

- Reduced total fat and saturated fat content of school lunches;
- Increased moderate-to-vigorous physical activity during PE classes, and;
- Improved students' self-reported eating and physical activity behaviors.¹

The high school principal, assistant superintendent, and three physical education and health education instructors attended two days of CATCH training in Dallas, Texas, in the fall of 2003. These five project staff then provided instruction to teachers and select senior high school students on how to implement the CATCH program in the regular classroom.

¹ Luepker R.V., et al. “Outcomes of a field trial to improve children's dietary patterns and physical activity. The Child and Adolescent Trial for Cardiovascular Health (CATCH) collaborative group” in *Journal of the American Medical Association*, volume 275, number 10, pp. 768–76, 1996.

The school district also purchased and trained staff to use the TriFIT computer software, a program that provides a comprehensive and scientific means of analyzing the number of students overweight as determined by Body Mass Index (BMI). Students were able to develop personal fitness profiles by inputting information such as height, weight, diet, and blood pressure. The TriFIT software developed a specific recommended diet for each individual student to meet his or her ideal BMI. Throughout the school year, students entered their personal data and reviewed their health progress.

For students in grades K-4, the F.I.T. program implemented the KiDnastic fitness program. The school district purchased the KiDnastics curriculum and supplies and used these materials to help young students improve their basic coordination, flexibility, and balance and to learn new health-related vocabulary.

The F.I.T. program also established a fitness room equipped with treadmills, stair steppers, rowing machines, exercise bicycles, and various exercise supplies for muscular and cardiovascular development, as well as an outdoor fitness station for children ages 5-12. Each school site also received pedometers, exercise mats, gymnastics materials, and other supplies as needed to meet Oklahoma State Department of Education Priority Academic Student Skills (PASS) and National Physical and Health Education Standards.

All Cave Springs School District physical education and health education instructors and other interested classroom teachers participated in eight and a half days of training in the utilization of the new TriFIT technology, implementation of the CATCH and KiDnastics programs, and PE/PASS integration. The teachers also received onsite mentoring in classroom instructional improvement from a university professor in the field of health and human performance.

The introduction of modern physical education supplies and methodology led to increased physical activity among students. Teachers and students reported to evaluators that the new technology, tools, and approaches piqued their interest and made participation in physical and health activities more enjoyable.

F.I.T. program outcomes included the following:

- 100 percent of students in grades K-8 participated in daily physical activity programs for 45 minutes per day; and
- 80 percent of students in grades 9-12 who were enrolled in the F.I.T. program increased their daily exercise routines with regular classroom teachers, as evidenced by certified teacher lesson plans and documented fitness room usage.

Granite School District—C.O.P.E. Project

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The Granite School District's Creating Opportunities for Physical Education (C.O.P.E.) project was developed to offer quality, developmentally appropriate physical activities for elementary students and to provide a health-enhancing curriculum and training for classroom teachers. Sixteen elementary schools, one-quarter of the elementary schools in the district, participated in the project.

The project addressed three goals:

- Increase student fitness levels and achievement of Utah Core Physical Education (PE) Standards;
- Build the school district's capacity to implement and sustain the new standards-based elementary PE curriculum; and
- Promote the development of healthy, active lifestyles by increasing awareness of positive choices.

Under the C.O.P.E. project, the school district purchased heart rate monitors, pedometers, balls, and parachutes for each of the 16 participating schools. In addition, circuit training centers were established at 10 of the 16 schools where students can cycle through 20 fitness stations. At the remaining six schools, aerobic steps and exercise bands were provided to the students so that they were able to achieve similar fitness results

A two-day training was provided to 200 classroom teachers. The teachers learned about the impact of physical activity on academic performance, ideas for age-appropriate physical education activities, and how to integrate physical education into other academic areas. One teacher was selected from each school to attend monthly follow-up training sessions to learn new physical education activities, which he or she then brought back to the other school staff.

Project Director Frank Wojtech noted that the training was one of the most successful elements of the project. "In our district, elementary school classroom teachers are responsible for physical education. However, some of our teachers only had one PE class during college, and the majority had none," he explained. "The evaluation comments we received from teachers were so positive that we decided to conduct another training for 100 teachers the next year."

In addition to the training, the school district developed the Healthy Habits curriculum, a physical education and nutrition manual. The manual offered physical education activities designed to help elementary students develop speed, strength, agility, coordination, cooperation, and other skills. A C.O.P.E. Web site was launched

(www.granite.k12.ut.us/health/cope.html) to provide teachers with online access to the Healthy Habits curriculum, as well as other information on nutrition and developmentally appropriate physical education activities.

During the summer months, the C.O.P.E. project offered sports camps for students in grades 3-6. These free summer camps focused on basketball, volleyball, soccer, and fitness skills. In past years, these sports camps were cancelled due to lack of interest. However, due to the success of the C.O.P.E. project, 1,737 students from the 16 participating schools signed up, demonstrating their renewed desire to be physically active and to learn sports fundamentals.

A variety of school programs were implemented with community partners. One key partner was the Gold Medal School Initiative, a program developed by the Utah State Office of Education and the Cardiovascular Health Program at the Utah Department of Health to promote improved physical activity and nutrition in schools. As a partner, the Gold Medal School Initiative sponsored the "Gold Medal Mile," a program in which students and teachers were challenged to walk one mile per week and to document their progress using their new pedometers. The Initiative also contributed to the development of the Healthy Habits curriculum.

C.O.P.E project outcomes included the following:

Student Measurable Outcomes

- 56.1 percent of program students increased their Presidential Fitness Score for curl-ups.
- 64.6 percent of program students increased their Presidential Fitness Score for push-ups.
- 63.1 percent of program students increased their Presidential Fitness Score for the pacer test.

District Measurable Outcomes

- 98.3 percent of the teachers receiving C.O.P.E. training strongly agreed or agreed to the statement that "the physical education training received was helpful."
- 91.4 percent of the teachers receiving C.O.P.E. training strongly agreed or agreed to the statement that "they have improved in their ability to teach PE activities since receiving the C.O.P.E training."
- Independent observations were randomly conducted in one class at each C.O.P.E. school. Based on observations from an independent evaluator, 70 percent of teachers reinforced students' correct use of equipment and skills, and 80 percent of teachers validated students' feelings during PE.

Many elements of the project have been sustained since the conclusion of the grant. To extend the program beyond the initial 16 schools, the school district committed to fund an annual training for all elementary school teachers in the district. In addition, the district has accepted the cost of annually updating and reprinting the Healthy Habits manual and of supporting the ongoing development and expansion of the project Web site.

Independent School District #2897—Wellness—A Life Endeavor Program

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The Wellness—A Life Endeavor program was created by Independent School District #2897 to use state-of-the-art technology to access and monitor student and adult fitness, to introduce students to lifetime cooperative fitness activities, and to align the program with national and state physical education standards. The project served approximately 1,500 students in three school sites—one elementary, one middle school, and one high school.

Under the grant program, the district purchased new technology to help individual students and teachers understand their own health and wellness and develop their own personal fitness plans. The technology included TriFIT hardware and software, PE Manager software, hand-held companion personal computers, Polar E-series heart monitors, and pedometers.

Students in grades 4-10 were taught how to use the pedometers and heart rate monitors to monitor their fitness levels. Students collected information from their pedometers and heart rate monitors and then entered the information into Health Risk Appraisals (HRAs) found on the Health First Web site. These HRAs allowed students to track their results and evaluate their fitness progress. Rather than compete against each other, the students learned to improve and maintain their own personal fitness levels.

Middle school physical education teacher Polly Bowen, who oversaw the program, observed that parents were particularly pleased with the fitness reports. “Two times a year, in fall and spring, the students’ fitness reports went home to their parents,” she explained. “The response was wonderful. Parents would call us and say, ‘This helps us understand what we should be doing, not only for our children, but also for ourselves.’”

The school district’s eight physical education and health teachers attended five eight-hour training sessions to learn to utilize the new technology. The training also covered curriculum integration, nutrition, and total wellness.

In addition to the new technology, the district also purchased fun and challenging new equipment, including cross-country skis, an indoor climbing wall, and an Omnikin ball—a four pound, four foot tall ball that requires a cooperative team effort to manipulate.

According to Bowen, the skis in particular were a great hit with the students. “Here in Minnesota, we live in a winter wonderland,” she said. “These students should be outside as much as possible.” Many of the students had never cross-country skied before, she explained. They learned dry land preparation and then skied on school grounds. “At first

the students were slipping and sliding everywhere, but by the next fall the development in the seventh- and eighth-graders was tremendous. They could jump on their skis and go!”

The climbing wall also was a success. It not only helped students build their upper body, and develop coordination and flexibility, but it also provided interesting opportunities for curriculum integration. Because the wall surface is a dry erase board, words can be written on the wall for the students to read while they climb. For example, fifth-graders climbed to words from their social studies lessons, and sixth-graders climbed to words used in a novel that they recently read.

The Omnikin ball required the students to work together in teams of four players to score points. Cooperative effort is extremely important in this game in order to put the ball into play. Students used the ball game to demonstrate their understanding of rules and the skills needed to be physically active, which is one of Minnesota’s state physical education standards.

As a result of the program:

- 75 percent of the middle school students reported that outside of physical education class they engage in fitness activities at least three to five times per week, for at least 30 minutes.
- 53 percent of the middle school students reported that using the new technology products in class helped them to better understand the importance of being physically fit.
- 53 percent of the middle school students reported that they think they have enough knowledge to implement a fitness plan five years later.

The program did not end with the conclusion of the grant period. After the grant ended, three more training workshops were held, as well as monthly meetings to continue to help physical education and health teachers make best use of the new technology and equipment. According to Bowen, the district also has begun an exciting new partnership with the local community center that is connected to the middle school-high school complex. The community center contains a 200-meter track, a fitness room, an ice arena, and basketball court. The district and community center will work together to use the new technology and equipment to continue to improve the students’ total wellness and to improve the fitness of adults in the community.

YMCA of Metro Atlanta, Inc.—Youth Fit For Life Program

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The YMCA of Metro Atlanta, Inc. developed the Youth Fit For Life program to measure short-term physiological and psychological changes in 5- to 12-year-old boys and girls. This after-school program was delivered by 125 counselors to 2,000 students in 60 schools in the Atlanta area. Students participated in the program for 45 minutes, three times a week for 12 weeks.

The Youth Fit For Life program was developed by an exercise physiologist, pediatric exercise scientist, and behavioral scientist with a specialization in health behavior change. The program, based on the social-cognitive behavior theory, seeks to help children to “develop behavioral skills to last a lifetime,” explains Dr. Annesi, director of wellness advancement for the YMCA. Competition is based internally; active games in the program are non-competitive and students are encouraged to set and achieve personal fitness goals.

The Youth Fit For Life program contains the following elements:

- Cardiovascular exercises (three days per week); age-appropriate games and activities designed to be fun, such as relay races and tag;
- Resistance exercises (two days per week); three to six exercises performed in one to three sets of 10 to 12 repetitions per set using resistance bands, followed by brief stretching; and
- Behavioral skills training (one day per week plus during brief periods of rest between exercises); brief interactive lessons about self-management and self-regulatory topics, including setting goals, monitoring progress, facilitating self-talk such as thought-stopping and cognitive restructuring, and identifying physical activity types that are appealing.

During each 45-minute session, games or activities are structured so that they can be simply explained by a counselor in 30 seconds. All children can participate in the games and activities simultaneously. Finally, activities that require high exertion are alternated with those that require lower levels of exertion. All these factors promote maximizing the amount of time students spend moving in each session.

To measure physiological changes, a random sample of 570 boys and girls ages 5 to 12 were chosen to participate in research measures both before beginning the program and after 12 weeks of program participation. Physiological measures included:

- Body composition by skinfold caliper;
- Strength by number of push-ups completed keeping to a three-second cadence and an arm bend of 90 degrees;

- Flexibility by shoulder stretch in which the right hand is stretched over the right shoulder and down the back while the left hand reaches up behind the back and the number of centimeters between the fingers is measured; and
- Endurance by number of minutes to run and/or walk one mile (a 15-minute ceiling was applied).

To measure psychological changes, 45 boys and girls ages 9 to 12 were tested before beginning the program and after 12 weeks of program participation. Each participant's parent or caregiver gave informed consent. Psychological measures included:

- Physical self-concept by 12-item Tennessee Self-Concept Scale;
- Self-description by 8-item General-Self Scale;
- Exercise self-efficacy by 10-item Exercise Self-Efficacy Scale for Children (this scale was developed from previous research for use with this age group); and
- Overall mood by the 30-item Profile for Mood States Short Form and Scale of Total Mood Disturbance.

After 12 weeks, the Youth Fit For Life Program demonstrated positive effects on children's body composition and strength. Physiological outcomes included:

- For both boys and girls, body composition showed improvement for all ages except 5- and 6-year-olds.
- All children demonstrated small-to-moderate increases in strength, except for 11- and 12-year-old girls.
- Changes in flexibility and endurance were notable for only a small number of boys and girls after 12 weeks of program participation.

Regarding psychological measures, program evaluation showed an increase in children's self-description. Although all four pre- to post-treatment analyses were in the favorable direction, only changes in self-description reached statistical significance. Children with high self-description believe, "In general, I like being the way I am." High self-description is also associated with academic competency.

A unique aspect of the Youth Fit For Life program is that it may be delivered by counselors who are not trained in physical education, says Dr. Annesi. Counselors were educated about the Youth Fit For Life curriculum by the program developers during a full-day session using a manual and video about the program. The 125 counselors, however, were not trained physical education instructors. This opens up the door to wider dissemination of the program.

The Atlanta YMCA will disseminate this and other research-based programs to YMCAs nationally. A video and manual about the Youth Fit For Life program will ensure consistent implementation of the program throughout the United States.

Pueblo School District No. 60—Empower Lifelong Wellness Program

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Pueblo School District No. 60 is a central city school district serving over 17,000 students in 41 schools in Pueblo, Colorado. The district's Empower Lifelong Wellness project was developed to enable students to meet district and state standards while empowering them to take responsibility for decisions that lead to healthy lifestyles. Sixty teachers from 35 elementary, middle, and high schools participated in the project.

The Empower Lifelong Wellness project addressed three goals:

- Increase professional development opportunities for all physical education staff members;
- Expand and strengthen individual lifelong wellness opportunities for K-12 students; and
- Develop quality assessment plans that will provide usable data to measure student success.

Under the project, the district purchased new technology to help students and teachers objectively assess their personal fitness levels and develop personalized health and exercise plans to achieve their fitness goals. Elementary schools each received hardware and software for the Polar PE Manager program, a hand-held companion personal computer, a set of Polar E30 heart rate monitors, and pedometers. Middle and high schools each received a TriFIT 600 health management system with an exercise bike, a hand-held companion with PE Manager software, a set of Polar E30 and E600 heart rate monitors, and pedometers.

This technology is designed to help the students and teachers understand their current levels of fitness and track the results of their exercise program. The TriFIT system generates reports on each individual's body weight, body fat, heart rate, blood pressure, flexibility, strength, and cardiovascular conditioning as compared to others of the same age. The hand-held companion allows teachers to take roll and complete assessments without clipboards and pens during activity sessions. It then downloads information into PE Manager software so that they can provide reports to individual students.

In addition to the new technology, other fitness equipment and support were provided to enable students to participate in physical education activities and to improve the schools' existing fitness facilities. High schools upgraded their weight rooms to focus on total fitness, rather than simply on weight lifting. Elementary schools added adventure courses and other equipment to help students develop positive social and cooperative skills through inclusive physical activity.

Extensive training in the proper use of the new physical education technology was offered to all elementary, middle, and high school physical educators in the district. In addition, funds were provided for both physical education instructors and classroom teachers to attend a variety of other educational conferences and training seminars to stay abreast of issues and trends in the field of physical education. These training seminars covered topics such as adventure education, health promotion through physical education, healthy lifestyles, and safe and appropriate physical education activities with authentic assessment.

Training successes included the following:

- More than 90 percent of the district's 60 physical education teachers attended the technology training sessions;
- 70 percent of the district's middle and high school physical education teachers attended an adventure education and authentic assessment workshop; and
- Forty-four teachers attended other external educational conferences, training workshops, and conventions.

According to Beverly Samek, director of coordinated school health programs for the district, these professional development opportunities for the teachers are one of the keys to the program's success. She noted that many of the physical education teachers have improved their organizational and course management skills, expanded the use of updated technology in their classes, and integrated the use of technology into their activities.

The district also developed a new physical education curriculum featuring games and inclusive activities with a cardiovascular focus. The activities included swimming pool games, adventure education activities, and jump rope and cup stacking practice and competitions. The pedometers and heart rate monitors provided immediate feedback on the participants' progress, thus increasing the motivation of both teachers and students.

Samek noted that student motivation was particularly evident at an alternative high school. "The teacher gave the students a personal fitness profile and taught them about heart rate monitors. From that day on, they couldn't wait to use them. Their conversation changed—suddenly, they discussed body mass index (BMI) and heart rate zones," she explained. "This motivated students who had previously come into the gym and sat around. They measured their target heart rate zone and immediately knew where they were the entire time."

Although the grant period has ended, with the new equipment in place, the physical education teachers have continued to provide quality programs. Professional development on assessment, use of technology, and increased time for physical activity in classes has continued throughout the 2003-04 school year.