Taking Action for Healthy School Environments

Linking Education, Activity, and Food in California Secondary Schools

California Department of Education
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Publishing Information

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A partial list of other educational resources available from the Department appears on page 69. In addition, an illustrated *Educational Resources Catalog* describing publications, videos, and other instructional media available from the Department can be obtained without charge by calling the Sales Office at (916) 445-1260 or (800) 995-4099.

Notice

The guidance in *Taking Action for Healthy School Environments: Linking Education, Activity, and Food in California Secondary Schools* is not binding on local educational agencies or other entities. Except for the statutes, regulations, and court decisions that are referenced herein, the document is exemplary, and compliance with it is not mandatory. (See *Education Code* Section 33308.5.)

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A Message from the State Superintendent of Public Instruction

As the State Superintendent of Public Instruction, I am a strong advocate of a comprehensive approach to improving student health and readiness to learn. I salute the leadership and innovation in school districts that are creating healthy nutrition and learning environments on school campuses. The results are encouraging, and the positive impact on students is significant.

Taking Action for Healthy School Environments: Linking Education, Activity, and Food in California Secondary Schools tells the story of how educational and community leadership in 18 school districts developed new approaches, in both policies and programs, to creating healthy learning environments.

One of my initiatives also focuses on this subject. The California Department of Education has published *Healthy Children Ready to Learn: A White Paper on Health, Nutrition, and Physical Education* (2005), which establishes four goals and outlines actions the Department will take to support healthy, active, and well-nourished children. These goals include supporting a health education and physical education program that provides students with the skills, knowledge, and confidence needed to develop and maintain active, healthy lifestyles; implementing nutrition standards for all food and beverages sold on campus; increasing participation in the school meal programs so that no child goes hungry; and creating a school environment that supports the health of students.

I also convened the Superintendent's Advisory Committee on Nutrition Implementation Strategies to address the four goals. Some of the members of the committee are from schools within districts whose success is documented in this book; others have worked at the district or statewide policy level in education or school food service.

I recommend this publication to those in the forefront of creating a new lexicon of health on campus. After reading the case studies described, I am heartened that public school leadership is taking seriously the relationship between nutrition and learning and between physical fitness and lifelong healthy habits.

Jack O'Connell

State Superintendent of Public Instruction

Acknowledgments

THE California Department of Education gratefully acknowledges the contributions of many individuals to the production of this publication. Heartfelt appreciation goes to the professionals who developed, field-tested, and contributed descriptions of promising practices in their schools (see Table 1 on page 5 and school district contacts on page 62). We also commend those unnamed individuals who worked behind the scenes to make a difference in students' lives.

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Executive Summary

An epidemic of childhood obesity has exposed the effects of children's poor eating habits and increasing lack of physical activity, alarming parents, school administrators, and educators. Simultaneously, an increasing incidence of eating disorders, such as anorexia and bulimia, has become cause for concern as those disorders lead to excessively low body weight, especially among adolescent girls. Maintaining a healthy body weight can help prevent long-term health consequences, including high blood pressure, stroke, and heart disease. And numerous studies have shown that well-nourished, physically active students are more likely than poorly nourished, less active students to have higher rates of school attendance, greater class participation, and higher test scores in reading, writing, and mathematics. School-based efforts to improve nutrition and physical education not only address critical health issues but also play a significant role in promoting the mission of schools as learning communities.

Through case studies featuring 18 California school districts, particularly secondary schools, *Taking Action for Healthy School Environments* illustrates promising practices and provides recommendations for action in four areas that can improve student health—and thus academic potential—through policy and environmental change as follows:

- Adopting local school wellness policies that institutionalize links between education, physical activity, and food
- Increasing nutrition education opportunities for students
- Increasing physical activity for students and the community
- Implementing nutrition standards for all food and beverages offered at school, increasing student consumption of California-grown fruits and vegetables, and creating economically viable ways to increase participation in the school meal program

Several of the featured school districts received Linking Education, Activity, and Food (LEAF) grants administered by the California Department of Education and funded by the California Department of Food and Agriculture. The LEAF grantees agreed to develop nutrition and physical activity policies and implement nutrition standards for food and beverages sold outside of school meal programs while increasing offerings of California-grown fruits and vegetables on campus. Other districts utilized non-LEAF sources of outside funding or implemented changes with little or no outside funding.

All of the featured school districts, with the support of parents, administrators, educators, and community leaders, were able to implement practices that transformed the connections between education, physical activity, and food. Examples of such practices include:

- Building strong school health councils that include a broad base of stakeholders
- Adopting comprehensive school health policies that include nutrition standards for food and beverages served and sold outside the school meal programs, high-quality instruction in physical education and health education for all students, and goals for integrating nutrition education throughout the curriculum
- Promoting experiential learning through hands-on activities in gardens and kitchen classrooms
- Improving physical education instruction by developing health and fitness centers and providing staff development for physical education teachers
- Improving school lunch choices while reducing or eliminating à la carte items
- Increasing access to and the appeal of the school meal programs through point-of-sale computer programs, longer lunch hours, more points of sale, and cafeteria renovations

Each of the case studies also illustrates the challenges that school districts faced as they implemented school health policies, such as:

- Inadequate infrastructure and equipment to support physical activity, nutrition education, and school food service programs
- Lack of administrative support or staff development opportunities for physical education programs
- No formal health or nutrition education standards
- Federal and state meal reimbursement rates that do not cover the true cost of the scho ol lunch program

While the practices showcased represent opportunities for California schools to increase nutrition and physical activity for students, the challenges also point to the need for clear policies and long-term funding to support their efforts. The following list notes some key

Pacific High School (Ventura) educators integrate farm-to-school concepts in academic course work.

recommendations for action by local decision makers to support healthy learning environments:[1]

- District administrators support the ongoing use of broad-based school health or wellness councils or advisory committees, as required by federal legislation (Public Law 108-265, Section 204), to develop and implement local wellness policies.
- District school health councils and advisory committees involve and educate stakeholders throughout the policy development process, using such means as public hearings, health forums, focus groups and surveys, and the media.
- School boards adopt comprehensive local wellness policies that include nutrition guidelines for food and beverages served or sold outside the school meal programs, high-quality instruction in physical education and health education for all students, goals for physical activity, and goals for integrating nutrition education throughout the curriculum.
- School administrators provide staff development opportunities for physical education teachers and support professional development for food service staff and teachers in experiential nutrition education, including instructional gardens and classroom cooking.
- District administrators and local decision makers seek additional sources of funding for physical activity equipment and programs and explore ways to increase physical activity both indoors and outdoors.
- School food service departments, with the support of school administrators and the participation of students, move toward reducing or eliminating à la carte food and beverage sales while increasing access to and the appeal of school meals.
- School food service directors and school business administrators explore avenues for purchasing locally grown fruits and vegetables for school meal programs, offering successful breakfast programs, and creating pleasant eating environments.
- School administrators partner with food service departments and other school groups, such as through fundraising efforts, to improve the healthfulness of food and beverages offered outside of school meal programs.
- Local and state decision makers obtain increased funding for school meals, including funding to assist schools with procuring such needed technology as point-of-sale computer systems and nutrient analysis software.

[1]For the complete list of recommendations, see the section "Recommendations" on page 58.

REAL STUDENTS, REAL CHALLENGES

ADAM (not his real name), a hardworking middle school student in Berkeley, California, works to balance schoolwork with friends and has high hopes for the future. While facing the daily pressures of school life, Adam must also deal with the social and physical challenges associated with his size. Weighing 242 pounds, Adam cannot perform everyday physical activities, even walking, without becoming breathless. He worries about what other students think of him and knows that he faces potentially serious health problems and academic and social challenges down the road. But this past year, through the support of his school and his pediatrician, Adam experienced a major improvement in his health. Although he does represent the growing number of children who are overweight, he also stands for those who are striving for a healthier life.

Cheryl Draper is Adam's physical education teacher. Having collaborated with physical education and science teachers in her own district as well as with other Linking Education, Activity, and Food grantees, she tried a new approach to teaching her curriculum, emphasizing the links between physical activity, nutrition, and health. She had her students keep a daily journal and portfolio in which they recorded their eating and physical activity patterns for a week. Motivated by the assignment and now determined to lose weight, Adam took his portfolio to his pediatrician. Working with Adam, the pediatrician and Adam's teacher developed a plan of action to help Adam achieve his goal of losing weight.

By the end of the semester, Adam had changed his eating habits completely. He began eating vegetables and fruit, stopped eating fried foods, and ate at the school's new salad bar every day. Soon, Adam began to lose weight. He began running with the other students during physical education class. At first, some students were worried about Adam, seeing how hard it was for him to run. However, by the middle of the semester, they were running along with him to provide encouragement and support. Adam developed a reputation as the student who did not give up. No matter how slow Adam needed to go, he never stopped running. Within ten months Adam had lost 42 pounds. His body mass index, a measure of body composition (ratio of lean tissue to fat issue) based on height and weight, decreased by 17 points. And because soda vending machines were not allowed on campus, he was drinking three 24-ounce bottles of water a day. By year's end Adam was running a 17-minute mile (Feenstra and Ohmart 2004).

Introduction

As a society we can no longer afford to make poor health choices, such as being physically inactive and eating an unhealthy diet; these choices have led to a tremendous obesity epidemic. As policymakers and health professionals, we must embrace small steps toward coordinated policy and environmental changes that will help Americans live longer, better, healthier lives.

—Vice Admiral Richard H. Carmona
United States Surgeon General
Acting Assistant Secretary for Health

Introduction

Secondary students want delicious food in a pleasant environment, and Monroe High School (Los Angeles) has both.

IN RECENT years an epidemic of childhood obesity has raised increasing concern among parents, school administrators, and educators. This development has revealed the dangers of poor eating habits and rising rates of physical inactivity among young people. In California more than 32 percent of children in grades five, seven, and nine are overweight, and close to 74 percent are unfit (*FITNESSGRAM®* 2004). Studies have shown that overweight children can face long-term negative effects on their health, including type 2 diabetes, heart disease, high blood pressure, and stroke as well as social stigma and depression. Poor diets and inadequate physical activity are contributing to premature deaths across the United States and account for at least 30,000 deaths annually in California (*California Obesity Prevention Initiative* 2005).

Taking Action for Healthy School Environments: Linking Education, Activity, and Food in California Secondary Schools tells the stories of students, teachers, parents, school administrators, and community leaders who have been tackling student health issues with passion, creativity, and vigor. Case studies in this publication focus on the most promising practices used by 18 school districts in California to promote districtwide policies and practices centered on sound nutrition and physical activity in secondary schools. Aware of problems associated with the large number of soda machines, fast-food venues, and food fund-raisers on middle school and high school campuses, the people in these case studies explore the unique challenges that secondary schools face as they work to provide healthful choices for growing teens. Although specific promising practices focus on secondary schools, the lessons learned here will also benefit elementary schools as they work to create healthy school environments.

This publication is not, however, a step-by-step how-to manual. Rather it is designed to provide local decision makers with a better understanding of the opportunities and challenges facing school districts as they transform the connections between education, physical activity, and food into successful strategies for change. Concluding with recommendations, the publication seeks to inspire decision makers at all levels—from local school staff, administrators, and board members to state legislators—to support local and statewide policies that promote the promising practices showcased here into long-term strategies for healthy school environments.

Healthy Children, Ready to Learn

While school-based efforts to improve nutrition and physical education curriculum and environments clearly address critical health issues, they also play a significant role in promoting the mission of schools as learning communities. Numerous studies have shown that nutrition and physical activity are linked to academic achievement. In a study investigating the associations between food insufficiency and cognitive, academic, and psychosocial outcomes of six- to eleven-year-old children and twelve- to sixteen-year-old youths, researchers found that children without enough food to eat have significantly lower arithmetic scores and are more likely to have repeated a grade than children who are adequately nourished (Alaimo and others 2001). In another study investigating the associations between school breakfast programs and academic achievement, researchers found that students who participated in the school breakfast program had significantly greater increases in mathematics scores, class participation, and attendance than did students who had lower participation in the breakfast program (Murphy and others 1998).

Research also shows that physical activity is linked to higher academic performance. Contrary to the popular opinion that schools do not have time to offer physical education and physical activity because of academic demands, one study found that schools that offered physical education instruction experienced improved scores in reading, writing, and mathematics achievement tests (Sallis and others 1999). In California a recent study that compared the Stanford Achievement Test (SAT-9) results with *FITNESSGRAM®* scores found that students who scored highest on the *FITNESSGRAM®* also scored highest on the academic test (*FITNESSGRAM®* 2004). Further, students with higher levels of mental and physical health are more likely to have better self-esteem, higher attendance, better concentration, and higher test scores (California School Boards Association 2005).

While there is much concern regarding the increasing number of overweight children, it is important to keep in mind that individuals who are underweight endure the same health risks, including heart disease, stroke, and some types of cancer. More children than ever suffer from eating disorders, especially during adolescence, which can lead to inappropriate weight loss and associated physical and mental health issues. California schools must aim to promote healthy eating habits and physical activity to achieve overall health and fitness as well as a healthy body image regardless of body weight.

In order to progress well in your studies, you must take at least two hours a day to exercise; for health must not be sacrificed to learning. A strong body makes the mind strong.

—Thomas Jefferson

Linking Education, Activity, and Food Grant Program

In 2001 the California Legislature passed the Pupil Nutrition, Health, and Academic Achievement Act (*Education Code* sections 49430–49436). This Act launched the Linking Education, Activity, and Food (LEAF)

California farmers produce what schools need: fresh produce at a market nearby (Santa Monica).

Grant Program, administered by the California Department of Education and funded by the California Department of Food and Agriculture (using U.S. Department of Agriculture specialty crops funds). The LEAF Program allocated $4 million for competitive grants to 12 California school districts to develop comprehensive nutrition and physical activity policies and, for nine of those districts, to pilot implementing policy at the secondary level (see Table 1). The purpose of the LEAF grants was twofold: to implement the Pupil Nutrition, Health, and Achievement Act of 2001, including establishing nutrition and physical activity policies and nutrition standards (see sidebar), and to increase offerings of California-grown fruits and vegetables in accord with the state's Buy California Initiative.

Focusing on middle school and high school campuses, LEAF pilot program grantees developed and tested various strategies to increase student access to healthful food and beverage choices, health and nutrition education, physical education, and physical activity opportunities. The short 21-month time frame was a challenge; but the results were encouraging, and the positive impact on students was significant.

Nutrition Standards of the Pupil Nutrition, Health, and Achievement Act of 2001

In elementary schools any snack sold outside the federal meal program must derive:

- No more than 35 percent of its calories from fat
- No more than 10 percent of its calories from saturated fat
- No more than 35 percent of its weight from sugar

The only beverages that may be sold to students are milk, water, or juice that is at least 50 percent fruit juice with no added sweeteners.

In middle schools carbonated beverages may be sold only after the end of the last lunch period.

Selection Criteria for Promising Practices

Taking Action for Healthy School Environments highlights strategies that LEAF grantees as well as other school districts have field-tested and found successful. Most of the promising practices featured in this publication were identified through LEAF grant progress reports and interviews with district staff. Others were submitted by districts not receiving LEAF grants (see Table 1). Although this publication features a limited number of school districts, many other districts across the state are engaged in similar efforts to improve nutrition and physical activity.

Each practice submitted was evaluated against the four criteria detailed as follows:

1. Addresses one or more of the following LEAF goals:
   a. Implements the nutrition standards for foods and beverages sold outside of federal nutrition programs as outlined in the Pupil Nutrition, Health, and Achievement Act of 2001
   b. Promotes California-grown fruits and vegetables
   c. Provides effective, experiential nutrition education
   d. Conducts healthy fundraising activities
   e. Ensures that no student goes hungry
   f. Engages students in vigorous physical activity
2. Involves and affects middle school or high school students through positive youth development, which includes building strong relationships with others, learning new skills, and giving back to the community

3. Demonstrates strong promise of being sustainable because it:
   a. Is specifically supported by written policy at the school or district level or is backed by the administration
   b. Demonstrates school staff and student involvement
   c. Promotes broad stakeholder support
   d. Supports lasting infrastructure changes
   e. Involves little or no cost
4. Can be replicated in other schools as determined by a formal or informal evaluation or answers to the following questions:
   a. What problem was this practice designed to address?
   b. How do you know that the practice addresses this problem successfully?

On the basis of those criteria, the districts listed in Table 1 were selected for inclusion in this publication.

Table 1
School Districts Featured in This Publication

School district	*School*	*Grant funds allocated*
Benicia Unified	Multiple sites	$25,000 (policy only)
Berkeley Unified	Longfellow Middle School Willard Middle School	$493,000
Carpinteria Unified	Carpinteria Middl School	$197,000
Conejo Valley Unified	Sequoia Middle School	
Del Norte County Unified	Del Norte High School	
Hawthorne	Bud Carson Middle School Hawthorne Middle School	$493,000
Kernville Union Elementary	Wallace Middle School	$246,500
Los Angeles Unified	Edison Middle School Monroe High School Venice High School	$739,998
Manteca Unified	East Union High School Manteca High School Sierra High School	
Moreno Valley Unified	Multiple sites	
Orcutt Union Elementary	Lakeview Junior High School Orcutt Junior High School	$455,432
Sacramento City Unified	Hiram Johnson High School	$246,500
San Diego Unified	Memorial Academy Roosevelt Junior High School	$493,000
San Francisco Unified	Lowell High School Mission High School	$246,500
Santa Monica-Malibu Unified	Santa Monica High School	
Vacaville Unified	Vacaville High School	
Ventura Unified	De Anza Middle School Pacific High School	
Vista Unified	Vista High School	

How This Publication Is Organized

This publication is divided into four chapters, each focusing on a category of practices for improving the nutrition and physical activity environment in schools. These categories also represent four of the eight model components of a coordinated school health plan described in the Centers for Disease Control and Prevention's "School Health Index" (*Coordinated School Health Programs* 2005) and the *Health Framework for California Public Schools* (2003). The chapters are followed by recommendations, school district contacts, works cited, and additional resources.

Chapter 1—**Linking: Creating Policy and Environments for Optimal Learning.** Highlights the role that strong leadership teams play in crafting the vision for a comprehensive policy for schoolwide health. It also illustrates successful ways in which districts can institutionalize the linkages between education, physical activity, and food.

Fresh fruit makes for a great school snack in front of a colorful mural at Hawthorne Middle School (Hawthorne).

Chapter 2—**Education: Integrating Nutrition and Academics.** Focuses on efforts to increase nutrition education opportunities for students through various classroom curricula, including science, health, and mathematics, and hands-on school garden and cooking programs.

Chapter 3—**Activity: Promoting Healthy Bodies and Minds.** Showcases promising practices that significantly increase physical activity for students and community members through physical education instruction and extracurricular physical activity while making the links to healthful eating habits and academics.

Chapter 4—**Food: Modeling Health in California Schools.** Highlights strategies to promote the consumption of California-grown fruits and vegetables and create economically viable ways to increase participation in the National School Lunch Program while promoting healthful fundraising efforts.

Readers are now invited on a tour to find out what has been developing in the boardrooms, cafeterias, classrooms, and physical activity environments of California schools.

Chapter 1

Linking: Creating Policy and Environments for Optimal Learning

Schools are central in providing students the skills, social support, and environmental reinforcements they need to develop and practice healthy eating and physical activity behaviors. Creating a healthy school environment begins with a strong, comprehensive district policy that promotes the health and wellness of students.

—Jack O'Connell
State Superintendent of Public Instruction
California Department of Education

Chapter 1

Linking: Creating Policy and Environments for Optimal Learning

THE unique and perhaps most challenging aspect of the LEAF pilot programs involved developing a comprehensive schoolwide approach to promoting children's health by linking classroom learning, physical activity, nutrition education, and healthful school foods in a coherent program. Added to that challenge was the requirement to complete the work within 21 months—a relatively short time for effecting long-term institutional change. Further, because such issues as excessive weight in children are complex, addressing those issues requires a multifaceted, systemic approach. And because type 2 diabetes and heart disease have been linked to such factors as overweight, poor diet, physical inactivity, stress, and psychological and emotional variables, solutions must be just as multifaceted, addressing more than one root cause.

For example, rather than focusing solely on food services, with only a few schools implementing changes, districts with the most successful prevention efforts make changes in multiple departments across the entire district. Yet the reality for many districts is that, because of the many demands placed on public schools, departments often operate in isolation and have little time to collaborate. This chapter discusses the ways in which school district leadership teams assembled the different pieces of the school health puzzle to create a shared vision for healthy learning communities. For the school districts featured here, four practices central to making a positive impact include the following:

- Building strong school health councils
- Adopting comprehensive school health and wellness policies
- Engaging in community outreach throughout the policy process
- Taking a systemic approach to linking education, activity, and food

Building Strong School Health Councils

Crafting a district health and wellness policy begins with a long-term vision that will affect teachers, students, food service staff, parents, administrators, custodians, school nurses, and others. One of the keys to success for policy development is to develop a school health council (sometimes called a health or wellness advisory committee) with broad-based representation. Unfortunately, many districts fail to include important stakeholders in the policy process and are frustrated later when they meet resistance to change.

Federal law (Public Law 108-265, Section 204) requires involving parents and guardians, students, school food service professionals, school board members, school administrators, and the public in the development of school wellness policies that must be established by July 2006. Such a requirement makes sense according to the experience of the California districts

featured in this publication. Given that comprehensive school health policies and programs span many departments and affect entire communities, districts meet with more success when they go beyond the federal policy and involve additional stakeholders in the policy development process. Physical education teachers, after-school program coordinators, school nurses, health and science teachers, community leaders, pediatricians, and representatives from the public health sector also can play a critical role in influencing student health.

CASE STUDY

A Broad-Based Advisory Committee

Carpinteria Unified School District
Grades served: **K–12**
Enrollment: **2,900 students**
Percentage of students eligible for free or reduced-price meals: **50 percent**
County: **Santa Barbara**

The Carpinteria Unified School District's recent success in developing and implementing a school nutrition and physical activity policy reflects the strong leadership and professional diversity found within its Child Nutrition and Physical Activity Advisory Committee.

Launching this advisory committee took some time and energy. Thinking about who would be affected by changes in school health policy, home economics teacher Bonnie Jenuine gathered together key stakeholders, including the cafeteria manager, a physical education teacher, a principal, a district administrator, the computer teacher, the district grant administrator, a member of California Women for Agriculture, a parent, a local media representative, and a program evaluator. Having each of these voices represented at the inception of the LEAF grant efforts was crucial to success in linking education, activity, and food to promote student achievement.

The advisory committee's leadership and support from community partnerships created the collaborative

Finding a leader at the school who is passionate about changing things for the school is important. But it is also critical to get a group of people together who share the vision.

—Bonnie Jenuine
LEAF Program Coordinator and Home Economics Teacher
Carpinteria Middle School

This team of LEAF-Eaters at Carpinteria Middle School (Carpinteria) convened an advisory group to support and inform its efforts to link education, activity, and food.

CASE STUDY

A Broad-Based Advisory Committee (Continued)

processes necessary to develop a comprehensive school health policy and implement activities across multiple departments. First, the Carpinteria Board of Education adopted many parts of the recommended health policy. Then, in less than two years, staff introduced salad bars into the school lunch program; integrated nutrition education into multiple-subject areas, such as mathematics, English–language arts, computer science, and home economics; and opened a new fitness center for physical education classes. The district also developed a school garden that supported student achievement in a variety of subjects and became the focal point for a middle school agricultural sciences course.

Under the coordinator's leadership, advisory committee members were able to communicate effectively with each other, building a strong sense of teamwork and shared vision. Further, district staff developed partnerships with community organizations such as the California Women for Agriculture, the High School Future Farmers of America, the City Parks and Recreation Department, and local businesses that provided resources and support for the LEAF program.

Adopting Comprehensive School Health and Wellness Policies

In the past few years, California has seen more adoptions of comprehensive health and wellness policies by school district governing boards. Local school wellness policy regulations require schools to set goals for nutrition education, physical activity, and other school-based activities promoting student wellness. They must also establish nutrition standards for all foods available on each school campus during the school day to advance student health and reduce childhood obesity. And they are required to evaluate implementation of the wellness policy and involve a broad group of individuals in its development ("Local Wellness Policy" 2005). As part of their overall vision for student success, schools can articulate policy goals in all eight areas of coordinated school health: health education, physical education, nutrition services, parent and community involvement, health services, health promotion for staff, safe and healthy school environment, and psychological and counseling services (*Health Framework for California Public Schools* 2003).

CASE STUDY

Community Collaboration

Los Angeles Unified School District
Grades served: **K–12**
Enrollment: **747,000 students**
Percentage of students eligible for free or reduced-price meals: **76 percent**
County: **Los Angeles**

The Los Angeles Unified School District, California's largest school district, is demonstrating how large districts can create healthier learning communities. In July 2002 the district made headlines as the first district in the nation to ban sodas in all of its schools through the adoption of its Healthy Beverage Resolution ("Healthy Beverage Resolution" 2002). Next, building on the popular LEAF pilot program at three schools and the sustained advocacy of a variety of local partners, the district's governing board turned to the issue of providing healthful food for students on campus.

With strong leadership from two school board members, early drafts of a food policy were developed with the support of groups like California Food Policy Advocates, the California Center for Public Health Advocacy, the Center for Food and Justice, Project LEAN, the Los Angeles County Department of Health Services, and the local community-based Healthy School Food Coalition. These organizations collaborated to provide the school board staff with detailed policy recommendations, research-based justifications, and insight into campus nutrition decisions. Through this process these partners shaped the board's food and beverage policies and continue to provide the board staff with ongoing feedback regarding implementation.

High school students took lead roles in implementing policy changes at their schools. For example, when a group of students at Venice High School brought their concerns about food on campus to health education instructor Jackie Domac, they decided to start a club to work on nutrition advocacy. With a vision for creating a healthier school environment, the club members, known as Students for Public Health Advocacy, met at least twice a week during the lunch period and on some weekends to plan school and community

Monroe and Venice High School students (Los Angeles) helped inform and implement the district nutrition policy to provide healthier food and beverage choices for students.

CASE STUDY

Community Collaboration (Continued)

health activities. As nutrition advocates they organized surveys and taste tests, planned health festivals, helped find sources of new food and beverage products, and worked with other student activists to educate the community about the importance of healthy lifestyles.

In the summer of 2003, a broad range of community organizations, including the Healthy School Food Coalition and Students for Public Health Advocacy, came out in force to support a proposed "Obesity Prevention Motion," which was adopted unanimously in October 2003. This motion mandated specific nutrition requirements for foods sold in district schools and called for 20 other improvements in the district's cafeteria programs to make fruit and vegetable consumption central to the district's mission. Given the long process involved in carving out a comprehensive nutrition policy in such a large district, the district decided first to focus on passing food and nutrition policies and later to integrate physical activity into school health policies. What stood out in the entire process was the role that a broad coalition of school-based stakeholders, public agencies, and nonprofit organizations played in shaping policy.

[The Berkeley Unified School District] . . . recognizes the important connection between a healthy diet, physical activity, and a student's ability to learn effectively and achieve high standards in school. The board also recognizes that it is [the district's] role, as part of the larger community, to model and actively practice through policy and procedures the promotion of family health, physical activity, good nutrition, sustainable agriculture, and environmental restoration.

—Integrated Policy for Nutrition Education, Physical Activity, and Food (Board Policy 6142.8) Berkeley Unified School District

Evolution of Existing Policy

Berkeley Unified School District
Grades served: **K–12**
Enrollment: **8,843 students**
Percentage of students eligible for free or reduced-price meals: **50 percent**
County: **Alameda**

In 1999 the Berkeley Unified School District became one of the first school districts in the nation to pass a food policy. Deciding to strengthen current policy, the district's Child Nutrition Advisory Committee took on the task of revising existing food policy to include both physical activity and nutrition standards. It was dedicated to creating a policy that values and celebrates the links between food, physical activity, nutrition education, and health. Yet one of the initial barriers to this systemic policy approach was that, typically, nutrition services and physical education policies are written as separate documents and isolated under different policy categories. Going beyond traditional approaches, the committee and the superintendent created an integrated health policy. It linked individual food, physical education, and environmental education policies under a single umbrella policy while allowing separate policies to be filed under their traditional policy sections. The new Integrated Policy for Nutrition Education, Physical Activity, and Food specifically articulates the systemic nature of student health and seeks to promote the links between nutrition, environmental stewardship, physical activity, and healthy learning communities.

CASE STUDY

Evolution of Existing Policy (Continued)

Berkeley's revised policy, adopted unanimously by the district's board in October 2004, includes the following new goals:

- The Berkeley Unified School District will provide opportunities to ensure that students engage in healthful levels of vigorous physical activity that promote and develop the students' physical, mental, emotional, and social well-being.
- The district will enhance the quality of the physical education curricula and increase training of physical education teachers through site-based and districtwide staff development.
- Students at the K–8 level will not be involved in the sale of candy, sodas, cookies, or sweets at any school-sponsored event or for any fundraising activity.
- Foods offered to students or employees of the district during the day as snacks or incentives or made available in school offices, whether provided by parents or district staff, must be consistent with the goals of the policy.
- The board encourages staff to integrate garden, nutrition education, cooking, and eating experiences as well as energy and renewable energy experiences into the curriculum for mathematics, science, social studies, and English–language arts at all grade levels.

Willard Middle School (Berkeley) believes in experiential learning; gardening is a part of every student's curriculum.

Engaging in Community Outreach Throughout the Policy Process

Wellness policies provide many opportunities to educate parents and community members about nutrition and healthy lifestyles beyond the school campus. At the same time such policies also can require parents, local businesses, and community members to abide by new nutrition standards for school-based activities, such as school fundraisers or athletic events. As districts develop health and wellness policies, they must reach out and educate the community about their efforts during the process. Soliciting critical feedback and acceptance from the community can be done through public forums, surveys and focus groups, newsletters, and local media coverage.

CASE STUDY

Developing the LEAF [wellness] policy gave us a huge step towards combating the alarming problem of excessive overweight and type-2 diabetes in children and adolescents

—Alisa Hinkle
LEAF Project Coordinator
Kernville Union Elementary School District

A Community Needs Assessment

Kernville Union Elementary School District
Grades served: **K–8**
Enrollment: **975 students**
Percentage of students eligible for free or reduced-price meals: **66 percent**
County: **Kern**

During the 2003 school year, the Kernville Union Elementary School District initially focused on assessing school and community needs through surveys and focus groups involving students, parents, and teachers.

Alisa Hinkle, LEAF Project Coordinator, commented that Kernville's small size made reaching out a bit easier. Knowing that the district policy would affect parents, members of student clubs, and other community members, Kernville's advisory committee worked with the district's LEAF evaluator to conduct focus groups and surveys involving parents, students, and district staff before and after LEAF activities were implemented. In focus groups seven of Wallace Middle School's eighth-grade students discussed their opinions about issues related to health and nutrition at school, suggesting that they would participate in more sports programs if offered. The committee also spent four months gathering data from surveys of parents, teachers, and students that asked questions about nutrition and physical activity in the district. Parents responded with suggestions for banning most, but not all, junk foods on campus; counseling students who are obese; educating parents and guardians; and offering physical education instruction five days a week (Bechtold 2004).

With the results of the survey, the advisory committee began amending existing policy. In response to student input, the committee included a commitment to develop opportunities for lunchtime and after-school physical activities, such as promoting walking clubs, organized sports activities, and more access to equipment. The draft policy also set nutrition standards for all other foods offered by food service outside of the National School Lunch Program and foods sold by students during the school day. The committee solicited feedback on this draft from booster clubs, student councils, parent-teacher clubs, and school site committees. After public comment and revisions, the Kernville Board of Education unanimously approved the Nutrition and Physical Activity Policy.

Kernville Middle School staff (Kernville) surveyed parents, students, and community members before drafting a wellness policy.

CASE STUDY

A Countywide School Health Forum

Benicia Unified School District
Grades served: **K–12**
Enrollment: **5,300 students**
Percentage of students eligible for free or reduced-price meals: **8 percent**
County: **Solano**

Healthier beverage selections at Benicia High School (Benicia) are one of the outcomes of community input gathered as part of policy development.

Because of their strong commitment to educate and gain input from the local community, the Benicia Unified School District and the Children and Weight Coalition of Solano County cosponsored a countywide Community Forum on Children and Weight. Their shared goal was to discover the community's views on helping children develop better eating habits and become more active in school. The more than 40 community members attending the forum separated into four groups to discuss the kinds of changes they wanted regarding food choices, physical activity, school policy, and community environment.

The ideas generated during the forum and discussed in small groups were summarized in a strategic plan that outlined the three major goals and action plans for every category. In the school nutrition and physical activity policy category, the goals included making current food selections healthier, offering parent education, and providing staff development for physical education teachers. The food choices group prioritized goals to educate parents and children about healthy food, create a healthy snack day, and promote adequate time to enjoy food. And the physical activity group set out to provide multilevel physical education programs in schools; provide community-based, noncompetitive athletic activities; and offer physical activities for persons of all ages and abilities throughout the community.

As a result of the countywide forum, Benicia's advisory committee added four new members and gained a community-developed strategic plan. These gains paved the way for the school board to adopt a districtwide nutrition and physical activity policy and for staff to begin implementing a social marketing campaign for healthy school environments.

The one-year LEAF policy grant was received when the district was poised for positive change and the community was ready to support it. Since the ending of the grant in December 2003, Benicia's high school students have worked with teachers and others in art classes and leadership groups to promote healthy lifestyle habits among their peers. Despite elimination of the

The forum gave us a platform from which to inform the public about the LEAF Project and to recruit interested members for the advisory committee.

—Anne Hahn-Smith
LEAF Project Coordinator
Benicia Unified School District

CASE STUDY

A Countywide School Health Forum (Continued)

food services director position because of budget cuts and the difficulty of coping with construction at the high school affecting cafeteria operations, the food service manager has enthusiastically participated in making menu changes and supporting student efforts.

Taking a Systemic Approach to Linking Education, Activity, and Food

Significant and effective organizational change can require many years of effort. Given the 21-month time frame for the LEAF grant program and its comprehensive goals, most LEAF pilot program school sites found it impossible to fully implement strategies in all areas at the same time. The following case study shows how one district succeeded in broadly influencing the school system in just a short time.

CASE STUDY

Schoolwide Implementation of a Health Policy

Orcutt Union Elementary School District
Grades served: **K–8**
Enrollment: **4,966 students**
Percentage of students eligible for free or reduced-price meals: **25 percent**
County: **Santa Barbara**

The Orcutt Union Elementary School District's first step toward improving student health and the learning environment was to develop and adopt relevant nutrition and physical activity policies. The district's broad-based advisory committee drafted the policies, which were approved by the school board in September 2003. Next came field-testing of the implementation of policy. Food services staff began by applying nutrition standards to foods sold outside of the National School Lunch Program (NSLP) at both Orcutt and Lakeview junior high schools. Rather than introduce new foods that met the standards, Food Service Director Janette Wesch

With appealing lunches like this salad bar at Orcutt Junior High School (Orcutt), who needs à la carte sales?

CASE STUDY

Schoolwide Implementation of a Health Policy (Continued)

decided to stop selling all non-NSLP food items and continue selling only approved beverages. At the same time both junior high principals negotiated with their PepsiCo representative to fill all vending machines with snacks and beverages that met the nutrition standards. The associated student body members also supported the changes by selling only new snacks that met the nutrition standards.

Lakeview Middle School (Orcutt) students take advantage of the new fitness center after school.

With à la carte food sales gone, the director focused next on increasing the variety of NSLP menu items. Using funds from the LEAF grant to get started, she revamped the lunch menu to include self-serve salad bars; new entrées reflecting Mexican, Italian, Asian, and American cuisine; prepared salads; and strawberry and yogurt parfaits. Taste tests at back-to-school nights and open houses helped market the new menus. As a result of these efforts, the food service programs offered 58 percent more fruit and vegetables and increased NSLP participation rates at both schools by 90 percent (Longo 2004). And a "grab-and-go" before-school breakfast program was added.

Just as the director was working hard to improve the lunch menu, each junior high school unveiled a new health and fitness center [described in more detail in Chapter 3]. Both centers contained new equipment for cardiovascular activity and strength training and computers supplied with nutrition education software to help students monitor and assess their eating habits. Physical education classes use the centers on a weekly basis, and students use them before and after school for personal fitness programs.

Once students were getting more physical activity and eating healthier lunches, both junior high schools decided to launch school gardens to provide experiential learning opportunities that could link to the successes in the cafeteria and fitness centers. By 2004 a garden had been planted, and 120 students were participating in garden-based learning every week. Both schools were offering an elective horticultural sciences class, and the science, home economics, art, and English–language arts classes were integrating garden-based learning into their curriculum.

With three major programs up and running—healthier school meals, health and fitness centers, and instructional school gardens—the Orcutt district

The Orcutt Union Elementary School District Advisory Committee consisted of the food service director, the superintendent, the associate superintendent, two physical education teachers, the science teacher, the history/garden teacher, local business owners, doctors, the county health department Project LEAN consultant, both junior high school principals, the LEAF grant evaluator, and the school nurse.

CASE STUDY

Schoolwide Implementation of a Health Policy (Continued)

recognized that long-term support for the programs would require outreach and education within and outside the school communities. Maximizing every opportunity to promote the programs, the advisory committee assigned its Project LEAN member to serve as liaison to the press and the local media. A teacher volunteered to produce a pamphlet and a short video to share with community groups. And the district contracted with a former professional newspaper journalist to write and produce the monthly LEAF Update newsletter that was distributed to parents, community groups, and the school board.

Orcutt and Lakeview middle school (Orcutt) students connect food and activity with academics in instructional school gardens.

Chapter 2

Education: Integrating Nutrition and Academics

It's simply not enough for schools to offer healthy foods. Nutrition education must be a key part of every school's curricula. School gardens, as learning laboratories, provide many opportunities to enhance the school environment and reinforce nutrition education. Research shows that youngsters who plant and harvest their own fruits and vegetables are more likely to eat them.

—A. G. Kawamura, Secretary
California Department of Food and Agriculture

Chapter 2

Education: Integrating Nutrition and Academics

RESEARCH shows that nutrition education can affect student eating habits positively in even a short period of time. In a comprehensive three-year evaluation of the Child and Adolescent Trial for Cardiovascular Health (CATCH), which used specific health curricula related to improving eating habits and physical activity, CATCH students were found to reduce their daily intake of fat calories from 33 percent to 30 percent (Luepker and others 1996). And a four-year research study of the 5-a-Day Power Plus nutrition education program in Minnesota found that the students' average consumption of fruits and vegetables increased when behavior-based curricula, parental involvement events, and changes in school food service were implemented (Perry and others 1998).

Our goal is to support high-quality instructional programs in health education and physical education because they can provide students with the skills, knowledge, and confidence needed to develop and maintain active, healthy lifestyles.

—Jack O'Connell
State Superintendent of Public Instruction
California Department of Education

California currently lacks health education content standards, which would include the standards for nutrition education needed to guide teachers and students on the path to healthful eating. The comprehensive *Health Framework for California Public Schools* (2003) does provide a foundation for health and nutrition education curriculum and instruction. It recommends that adequate time be allocated for sequential, age-appropriate health education instruction from kindergarten through grade twelve, including a full year in middle school followed by a full year at the high school level. However, such recommendations do not carry the same weight in the classroom as do adopted standards.

Fortunately, 2005 legislation requires that "on or before March 1, 2008, based on recommendations of the Superintendent, the State Board of Education shall adopt content standards in the area of health education" (*Education Code* Section 51210.8). Those standards will include nutrition education standards. The California Department of Education will develop competencies and grade-level expectations for classroom nutrition education—the essential knowledge and skills students should master by the time they graduate from high school—that will reflect the new, adopted health education content standards. Until such standards are adopted, however, nutrition education is left to individual school districts, schools, and teachers or nurses. Given staff time constraints and academic demands, current nutrition education efforts are often limited and ineffective.

Recognizing the critical role that nutrition plays in ensuring a child's readiness for learning, school districts can take steps to promote instruction in nutrition education. Despite a lack of health education content standards, the schools featured here have found creative and compelling ways to teach students about nutrition, local food systems, and healthy lifestyles. This chapter explores three promising practices that several secondary schools

are using to weave nutrition education into the school day:

- Teaching nutrition through experiential learning
- Integrating nutrition education into multiple subjects
- Creating a peer educator nutrition education curriculum

Teaching Nutrition Through Experiential Learning

Experiential learning is a powerful educational tool. According to a study done by the National Learning Institute, students retain an average of 5 percent of the contents of a lecture, 75 percent of an activity they learn by doing, and 90 percent of an activity taught by other students (*The Learning Pyramid* 2002). In 1995 the California Department of Education launched the Garden in Every School Initiative to make academic standards come alive by providing hands-on, garden-based learning opportunities for children to discover fresh food, make healthier food choices, and become better nourished. As many teachers and garden coordinators have since discovered, when students plant, grow, and harvest fruits and vegetables, they will eat them.

California case studies have shown that good environment-based education improves education in general and decreases discipline and attendance problems (Lieberman and Hoody 1998). A national report corroborates those findings, citing improved achievement in reading, mathematics, science, and history–social science and a decline in discipline problems at schools that adopted environment-based education as a central focus (Glenn 2000). Garden-based nutrition education can be part of these environment-based education efforts. By using hands-on garden and cooking activities to support core curricula, schools can provide numerous opportunities to teach students about nutrition, science, English–language arts, and other core subjects while developing lifelong healthful eating habits.

Every student at Willard Middle School (Berkeley) spends valuable class time in the garden on campus.

CASE STUDY

Instruction in Gardening and Cooking

Berkeley Unified School District
Grades served: **K–12**
Enrollment: **8,843 students**
Percentage of students eligible for free or reduced-price meals: **50 percent**
County: **Alameda**

A trip through all three middle school campuses in Berkeley will reveal students harvesting vegetables from year-round gardens and cooking a diverse range of meals in kitchen classrooms. While the Longfellow, Willard, and Martin Luther King, Jr. middle schools have gardens and cooking programs that reflect the unique histories and flavors of each campus, it is the district-level commitment to experiential learning that makes these programs so successful.

CASE STUDY

Instruction in Gardening and Cooking (Continued)

Willard Middle School (Berkeley) students prepare fresh, tasty food from the produce they grew in the school garden—then share it with teachers and peers around an inviting table.

For over a decade students at Willard Middle School have been cultivating, planting, and harvesting fresh fruits and vegetables in the school's garden, which now spans 3,500 square feet. Today, Garden Coordinator Matt Tsang leads garden activities during and after school. During block periods the coordinator leads a brief activity in the classroom that links to the current harvest or introduces concepts like seasonality and sustainability. To encourage physical activity, he also leads students in warm-up exercises before they work in the garden. While planting and harvesting seasonal vegetable crops in the garden, students and teachers learn about the science behind decomposition and soil fertility, the mathematical equations necessary to create a crop plan, or the nutritional value of growing and eating fresh vegetables.

Willard's kitchen classroom also provides hands-on learning opportunities for students. Cooking Instructor Susanne Jensen begins class by introducing a recipe featuring a crop students have cultivated in the garden. In teams students wash, chop, combine, season, and cook fresh produce. Each team competes to see which one can present fresh food in the most appealing ways. Setting out a tablecloth, plates, utensils, and garden-grown flowers, students sit together at the end of class to share the fruits of their labor. Harvesting vegetables from the school garden and then using them to prepare, for example, fresh salsa or quesadillas help students explore topics related to history–social science through foods of different cultures. Besides learning about the nutrients in a food or the culinary evolution of a food, they experience firsthand the taste and texture of delicious, healthful foods.

The act of eating together and learning to be civil to one another at the table . . . creates a sense of community and a feeling of togetherness that changes them. In cooking classes the best parts of everyone can be recognized.

—Vana James
Science Teacher
Willard Middle School, Berkeley

To extend hands-on learning beyond the garden, Berkeley teachers lead field trips to local farmers' markets and organic farms where students interview farmers and taste and purchase locally grown fruits and vegetables. During the field trips the students learn that food is connected to more than the grocery store down the block. On the farms students discover how certain crops are grown in the region and participate in farm activities such as harvesting and planting. By learning about local farming practices, students can understand better how the food choices they and their families make affect public health and the environment in which they live. Before and after the field trips, the trip coordinators lead classroom activities to reinforce lessons about healthful eating, food systems, and ecology.

Integrating Nutrition Education into Multiple Subjects

While experiential learning programs engage students in hands-on nutrition education, integrating nutrition concepts into multiple subjects can reinforce messages about healthy eating habits. According to the American Dietetic Association, the most effective school-based strategies to change eating habits include offering a clear message, using multiple strategies to reinforce that message, involving families, increasing the intensity and time of contact, and using curricula supported by a theoretical framework ("Nutrition Services" 2003).

Some schools choose to integrate nutrition into garden classes; others look to science classes to teach nutrition concepts. In yet another approach the Sacramento City Unified School District's Hiram Johnson High School created a seventh-period elective class covering nutrition, physical activity, peer training, and resiliency training. The following case study illustrates how nutrition can be integrated into the school day in a number of ways.

CASE STUDY

Schoolwide Integration of Curriculum

Carpinteria Unified School District
Grades served: **K–12**
Enrollment: **2,900 students**
Percentage of students eligible for free or reduced-price meals: **50 percent**
County: **Santa Barbara**

When 17 staff members from the Carpinteria Middle School participated in an in-service program called Active for Life, led by the American Cancer Society, they began looking at their own health with new eyes. As a part of the program, teachers were given a wellness test, including questions about fitness and nutrition. After learning of the results, participating staff began a competition to see how much they could increase hours of exercise, eliminate sodas, and take on new healthy eating habits. With their heightened awareness of fitness and nutrition, the teachers began to integrate nutrition education into their curricula. Their doing so was influenced by their previous opportunity to examine their own health habits.

The Carpinteria Unified School District experienced some of the greatest successes among

A mathematics instructor helps a student interpret the nutrition graphs he generated in class at Carpinteria Middle School (Carpinteria).

CASE STUDY

Instruction in Gardening and Cooking (Continued)

At Carpinteria Middle School (Carpinteria), the technology teacher helps students design food Web pages and analyze their eating habits.

LEAF grantees by integrating nutrition concepts into multiple subjects. Teachers in several departments decided to use nutrition as a teaching tool and explore how nutrition could relate to their curriculum. Some examples of integration include the following:

- Mathematics students use graphing skills to analyze their eating habits.
- English students write poems about fruits and vegetables.
- Science students can enroll in a new agricultural science class that uses the school garden started with LEAF funds.
- Home economics students prepare foods that meet nutrition standards and evaluate various products against the standards.
- Computer science students use health-related software to analyze their own diets and activity levels.
- Physical education students use a new circuit-training center that emphasizes personal fitness through noncompetitive aerobic and strength-building activities.
- Seventh-grade health education students develop nutrition research and promotion projects and nutrition and fitness goals to be achieved each semester.
- Photography students take photos of the garden.
- Art students draw fruits and vegetables.
- Leadership class members distribute "phony bucks" to students who are eating healthy food during lunch. The bucks can be redeemed for prizes.

Creating a Peer Educator Nutrition Education Curriculum

One of the most powerful tools for engaging student learning is to let the students become teachers. When given the chance to create lessons and teach younger students, the teaching students take an active role in their own learning process as they synthesize information and knowledge in new ways for others to understand. At the same time younger students gain knowledge through role models not much older than themselves. Using peer education to teach nutrition education can empower students to take responsibility for learning about healthy lifestyles while promoting health and physical fitness to the rest of the school.

CASE STUDY

Student Health Advocates

Del Norte County Unified School District
Grades served: **K–12**
Enrollment: **4,292 students**
Percentage of students eligible for free or reduced-price meals: **57 percent**
County: **Del Norte**

What started off five years ago at Del Norte High School as a service-learning project for science students is now a successful peer education Student Health Advocate Program that trains high school students to teach nutrition lessons to elementary school classes. Nutrition Grants Coordinator Helga Burns teaches high school students to prepare four nutrition lesson plans for kindergarten through third grade. Topics include the importance of fruits and vegetables, federal guidelines for healthy eating, dental health and problems with sugar, and the benefits of physical activity. The coordinator explains that when high school students research and create the lessons, they take an active role in learning about nutrition. Lacking structured nutrition education at the elementary school level, teachers from the eight Del Norte elementary schools eagerly sign up to have the student health advocates conduct lessons for their classes. In 2004 the high school students were able to teach 900 elementary students.

Del Norte High School nutrition science students teach a "sugar and toothbrushing" lesson to second graders at Joe Hamilton Elementary School (Crescent City).

Activity:
Promoting Healthy Bodies and Minds

Physical fitness is not only one of the most important keys to a healthy body; it is the basis of dynamic and creative intellectual activity. The relationship between the soundness of the body and the activities of the mind is subtle and complex. Much is not yet understood. But we do know what the Greeks knew: that intelligence and skill can only function at the peak of their capacity when the body is healthy and strong.

—President John Fitzgerald Kennedy

Chapter 3

Activity: Promoting Healthy Bodies and Minds

NATIONALLY, many schools are failing to provide students adequate opportunities for physical activity; only about 6 percent of secondary schools are providing daily physical education or its equivalent (*Fact Sheet: Physical Education and Activity* 2000). And California's youths, whether sitting in front of a television set or a classroom chalkboard, are leading more sedentary lives than ever before. California's *Education Code* does require all public schools to provide 200 minutes of physical education instruction every ten school days in elementary grades and 400 minutes of physical education instruction every ten school days in secondary grades. But the spring 2004 *FITNESSGRAM®* results revealed that only about one-fourth of the students tested in grades five, seven, and nine met minimum fitness standards.

Just as increasing numbers of overweight children point to the need for more physical activity, emphasis on achieving academic standards and preparing students for the high school exit exam and other standardized tests often lowers priorities for physical education. Consequently, physical education instructors face a scarcity of resources that affect the quality of physical education offered to students. In many school districts physical education instructors, lacking adequate equipment and facilities, teach classes of 50, 60, 70, 80, or more students. And when special programs, such as photography sessions or assemblies, are inserted into the school day, physical education classes are displaced by those events more often than are other classes.

Surveys of teachers and parents have shown that many are convinced that physical education is essential not only to student health but also to academic achievement. In addition, a 2003 national report found that teachers and parents support developing new approaches to physical education that encourage students to maintain physical activity during the rest of their lives. They also agreed that physical education funding should not be reduced because of other academic or budgetary priorities (*Healthy Schools for Healthy Kids* 2003). School districts are beginning to recognize that physical education is integral to a child's education and essential for creating healthy school communities.

By gaining a greater understanding of the link between physical activity, student health, and academic performance, California school districts can connect physical education and physical activity with schoolwide strategies to support healthy learning. However, physical education and physical activity have different goals, objectives, and delivery systems. Physical education, a planned, sequential instructional program, plays a key role in providing students with the knowledge, motor skills, and foundations of physical fitness

they will need to maintain an active lifestyle throughout their lives. It is taught by credentialed teachers and has specific learning objectives and assessments to determine whether that learning has been achieved. To further support effective physical education instruction, in January 2005 the State Board of Education adopted the *Physical Education Model Content Standards for California Public Schools,* which will serve as the foundation for instruction at all grade levels.

By contrast, physical activity refers to the body being engaged in movement. Middle school and high school students enjoy many forms of physical activity: games, individual fitness activities, dance, individual and dual sports, physical challenges, team sports, aquatics, combatives, and gymnastics. Although many students do enjoy the challenge of competition, some do not. Therefore, during the school day schools should provide an array of physical activities that meet the varied needs and interests of boys and girls, such as unstructured play before school, after school, and during breaks; intramural sports, with many choices for all interests and skill levels; specific physical activity clubs, such as hiking or fencing clubs; and special events centered on physical activity, such as fitness-oriented field trips and school-based events.

This chapter highlights two promising practices for increasing vigorous physical activity for students at the middle school and high school levels, both within and beyond the school day:

- Improving physical education instruction
- Providing physical activity beyond physical education through community-based, after-school, and peer education fitness programs

Improving Physical Education Instruction

Effective physical education courses provide students with instruction in motor skill development, health-related physical fitness, and the psychological and sociological concepts, principles, and strategies necessary for the learning and performance of physical activity. Using team, individual, and cooperative sports and physical activities, as well as aesthetic movement forms, such as dance, yoga or the martial arts, instructors engage students in vigorous physical activity and recreation. The following case studies describe how several school districts have invested in fitness centers, physical education equipment, and training for physical education instructors.

A plus about the health and fitness center is that students can work at their own pace and develop exercise programs that meet their own needs and goals. It's positive for all students, but especially for those who don't typically participate in physical activity outside of the school day.

—Staff member Orcutt Union Elementary School District

CASE STUDY

School Health and Fitness Centers

Orcutt Union Elementary School District
Grades served: **K–8**
Enrollment: **4,966 students**
Percentage of students eligible for free or reduced-price meals: **25 percent**
County: **Santa Barbara**

As a junior high school student, one might only dream about having free access to a 2,000-square-foot fitness center offering 22 cardiovascular stations, including treadmills, stair climbers, elliptical trainers, upright and recumbent cycles, rowing machines, and a computerized dance station, together with 11

CASE STUDY

School Health and Fitness Centers (Continued)

strength-training stations and a rack of hand-held weights. And for months students at Orcutt Junior High School thought that the center would remain a dream.

During the previous year the district's other junior high school, Lakeview, had launched a fully equipped health and fitness center with relative ease. The school had a new gym containing classrooms that could be converted into a fitness center and, with additional support from a LEAF grant, staff had purchased equipment and had the center up and running by September 2003. At Orcutt Junior High School, lacking a designated room or building to use, staff tried to use a small classroom adjacent to the gym as a center and wheeled equipment into and out of the classroom. But on discovering that building an interconnecting door was structurally impossible, they were compelled to cease their efforts.

Community members, however, refused to let go of the dream. Orcutt Junior High School's Parent-Teachers Association (PTA) was so impressed with the center at Lakeview that it was determined to settle for nothing less than a new building on its campus. With strong community and PTA support, visionary leadership from the LEAF Team, and creative fundraising, the dream became a reality. These partners organized a dance-a-thon fundraiser that, after much planning and outreach and many hours of dancing, raised over $40,000. All involved celebrated the grand opening of a second school health and fitness center in October 2004.

Thanks to a PTA fundraising effort, Orcutt Junior High School (Orcutt) students use the new school Health and Fitness Center during physical education class and after school.

The health and fitness centers at Orcutt and Lakeview junior high schools serve as hubs for health and nutrition on campus. Both centers have become the focal point of most lessons on fitness and nutrition. Through a rotating schedule, each physical education class uses a center twice a week. After school the centers host from ten to 30 students each, four days a week. As a complement to the fitness training, computers in the centers contain Dine Healthy software that allows students to monitor, assess, and plan to adjust their eating and physical activity habits. Lining the walls are posters expressing the importance of exercise for the body and mind and good decision making.

CASE STUDY

Using Peer Coaching for Staff Development

Berkeley Unified School District
Grades served: **K–12**
Enrollment: **8,843 students**
Percentage of students eligible for free or reduced-price meals: **50 percent**
County: **Alameda**

One of the first comments that Berkeley Unified's middle school physical education instructors made during the LEAF pilot program was that they rarely had opportunities for staff development. Typically, during district-wide staff development days, physical education teachers had to attend sessions covering other subject areas. As a result they had little time with each other to focus on physical education content, instructional strategies, and learning assessment. With LEAF funding and the help of a retired veteran middle school physical education teacher, the physical education instructors developed their own staff development opportunities by using a peer coaching model. That is, several teachers shared instructional units, sample lesson plans, and teaching techniques with their colleagues. The discussion was focused and content-specific—just what the physical educators were seeking to improve their programs.

At another staff development workshop, middle school physical education and science teachers collaborated on curriculum development. The LEAF science and physical education chairs began by discussing the epidemic of obese children and the potential positive effects of integrating science and physical education. Next, site teams worked in small groups to prepare one lesson plan linking science and physical education. To follow up, the participating teachers spent two hours working on LEAF goals during a district-wide staff development day.

As a result of that collaboration, Longfellow Middle School physical education teacher Cheryl Draper integrated seventh- and eighth-grade science and health concepts, including biology, energy systems, and nutrition, into her physical education curriculum. In doing so, she addressed physical education standards while she linked the grade-appropriate science and health standards. These staff development workshops provided a starting point for physical education teachers to share resources and develop teaching skills while linking physical education, science, and nutrition.

Providing Physical Activity Beyond Physical Education

Physical activity programs outside of school hours may be the main source of regular physical activity for some students, especially for those schools without physical education specialists on staff. The following case studies illustrate promising practices that, with the assistance of staff or volunteers, use after-school, community-based, and peer education fitness programs to promote physical activity among youths. These kinds of programs give students opportunities to participate in leadership and decision making and adults a chance to serve as positive role models for physical activity. The support of community and school organizations, such as service clubs and parent groups, can help bring diverse parts of a community together to achieve a common goal of more physically active students.

While a smaller fraction of our student population participates in PEAL, the impact that the program has on these students affects the entire school community."

—Sonya Smith
Student and Family Support Specialist
Bud Carson Middle School, Hawthorne

CASE STUDY

An After-School Athletic League

Hawthorne School District
Grades served: **K–10**
Enrollment: **9,800 students**
Percentage of students eligible for free or reduced-price meals: **84 percent**
County: **Los Angeles**

After school at any of the three middle schools in the Hawthorne School District, a number of boys and girls participate in seasonal sports offered by the Probation Education Athletic League (PEAL). Because of rising crime rates and increasing youth involvement in gangs, PEAL was initiated by the local probation department to provide safe outlets for students to engage in physical activity and recreation, thereby providing alternatives to gang activity while supporting academic achievement.

On three days a week at Bud Carson, Hawthorne, and Prairie Vista middle schools, boys and girls participate in football, basketball, and soccer leagues throughout fall, winter, and spring. Each school's Student and Family Support Specialist coordinates the program, and district staff coach. Recommended by their teachers, students participate in open tryouts that assess their attitude and potential for success in the program. Throughout each PEAL season teachers report weekly on students' academic performance and behavior. Students who receive two or more unsatisfactory marks are not

Students keep their grades up in order to take advantage of the after-school sports league at Hawthorne Middle School (Hawthorne).

CASE STUDY

An After-School Athletic League (Continued)

allowed to play in that week's game and may participate in practice (three days a week) only if they attend study hall.

Program coordinators report that students participating in PEAL have shown academic improvement and better self-esteem. Also, the school staff has observed fewer disciplinary referrals to the office. Since LEAF funding expired, PEAL is funded by 21st Century Learning Safe Schools, Healthy Students grants, with additional support from local businesses and nonprofit partnerships. Despite budget cuts and funding shortfalls, district administrators, teachers, and community partners continue to support PEAL as a positive violence prevention program that promotes safe and healthy learning environments for youths.

A Community Run and Walk

Hawthorne School District
Grades served: **K–10**
Enrollment: **9,800 students**
Percentage of students eligible for free or reduced-price meals: **84 percent**
County: **Los Angeles**

Hundreds of students, parents, and other Hawthorne community members turn out for the annual 5K Community Run and Walk.

The Hawthorne School District cosponsors a yearly five-kilometer community run and walk that engages a diverse collection of people from throughout the community in physical activity. On a Sunday morning each May, the Hawthorne Airport closes for two hours so that about 300 students and 200 adults can descend on the runway for a friendly five-kilometer race. Participants range from elite runners to school staff, parents, and students. With few community-wide events during the year, the run and walk creates an important opportunity for residents to learn about and experience the positive impacts of physical activity and community building. The district staff involved initially focused on Hawthorne and Bud Carson Middle Schools (the two LEAF pilot schools) as their primary targets for the run and walk. As the event evolved, elementary school teachers enthusiastically joined the planning efforts and encouraged their students. Every year students at the Hawthorne Middle School take part in an art contest to design the logo for the T-shirt. And local cable television and newspaper reporters interview students on the day of the event.

CASE STUDY

A Community Run and Walk (Continued)

True collaboration helps cover the cost of the event. Local businesses pay for insurance and timing services; school district grants pay for runners' medallions, youth T-shirts, and nutrition education materials; school staff volunteer their time; and the City of Hawthorne provides the land use permit, police service, street barriers, and stage setup. To ensure that students can participate for free, adult participants pay fifteen dollars. As a popular community-wide fitness event, Hawthorne's community run and walk successfully takes health education beyond the school campus by inspiring parents and community members to promote and join in on spirited physical activity.

A Physical Activity Fair

Conejo Valley Unified School District
Grades served: **K–12**
Enrollment: **22,383 students**
Percentage of students eligible for free or reduced-price meals: **12 percent**
County: **Ventura**

Often beginning on a small scale, school-based physical activity special events can expand over time in both the number of participants and the activities offered. The Sequoia Middle School in Newbury Park began 20 years ago by sponsoring a five-kilometer run for seventh- and eighth-grade students. For several years the event drew approximately 300 students, who ran the course on neighboring streets surrounding the school. Held every year on the day before Thanksgiving, the event began to grow in scope and participants. Visitors to the event in fall of 2004 would have observed a faculty run and walk in the morning hours before school that was followed by a healthy breakfast; teachers and school administrators wearing the 2004 commemorative T-shirt to classes; PTA members scurrying around and setting up the physical activity fair for students to visit on completion of the run; and over 1,000 students (98 percent of the student body) at the starting line later that afternoon.

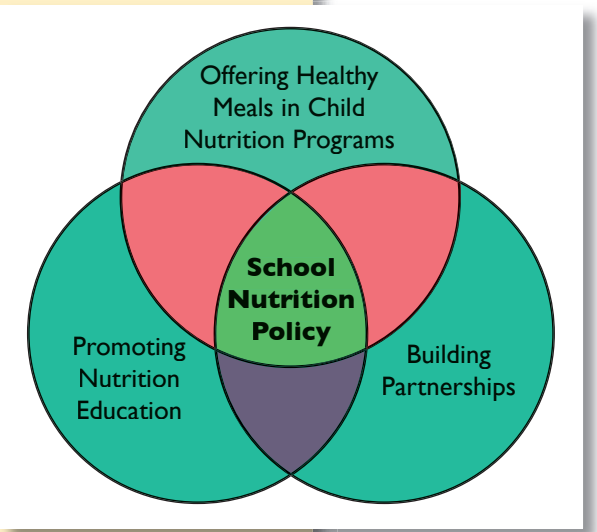
CASE STUDY

A Physical Activity Fair(Continued)

In 2004 the physical activity fair that has grown alongside the event featured 26 booths representing community organizations and businesses that provide physical activity programs and opportunities, such as a local fencing club, a bicycle shop, the local university athletic program, and a junior golf program. At the conclusion of the run, students were treated to a snack of fruit and water (donated by community businesses), a special T-shirt, and time to visit the physical activity fair and gather information about the opportunities available in their community. An event filled with challenge, excitement, and community involvement, it continues to grow each year and encourages students and community members to focus on physical activity.

Student Fitness Leaders

Manteca Unified School District
Grades served: **K–12**
Enrollment: **22,000 students**
Percentage of students eligible for free or reduced-price meals: **34 percent**
County: **San Joaquin**



Shaping Health As Partners in Education (SHAPE) California is a comprehensive approach to improving school nutrition initiated by the California Department of Education's Nutrition Services Division in 1990. SHAPE California promotes healthier school meals, nutrition education, partnerships, and school nutrition policy. With the receipt of one-time SHAPE California funding more than 12 years ago, the Manteca Unified School District has been consistently involved in developing effective nutrition education and physical fitness components for K–12 schools. One of Manteca's most successful programs has been a peer education physical fitness program in which high school students lead SHAPE fitness classes for elementary school students in grades two through five.

Lacking elementary school physical education specialists, Manteca's elementary school teachers provide physical education instruction. Susi Heath, a fifth-grade teacher at Shasta Elementary School, and other SHAPE leaders in the district rallied to encourage parents and community members to participate in physical fitness activities with elementary school students. Although that effort was initially successful, difficulty in finding enough parents to volunteer led those in charge to involve high school students in the activities.

CASE STUDY

Student Fitness Leaders (Continued)

For the past three years the district's nutrition services department has collaborated with East Union, Manteca, and Sierra high schools to offer health career students opportunities to become SHAPE fitness leaders. This program trains high school students to mentor students in grades two through five to promote the recreational and health benefits of fitness and physical activity. The volunteer students learn how to use age-appropriate games to lead physical fitness lessons lasting 30 to 40 minutes that focus on endurance, flexibility, and strength. As SHAPE fitness leaders, these high school students learn program expectations, appropriate behavior, and the importance of professionalism as they mentor the younger students.

Director of Nutrition Services Mary Tolan-Davi explains that the program's goal is to have high school students working with younger students on physical fitness. Manteca's SHAPE California efforts promote fitness activities as an enjoyable and beneficial part of a healthy lifestyle. In 2004-05 about 35 high school students and 1,000 elementary students participated on a weekly basis. The SHAPE fitness classes are supported in the K–8 school plans of the district.

Sierra High School (Manteca) health careers students serve as fitness leaders to get Shasta Elementary School students more physically active.

The beauty of the program is that there is no additional cost involved and so many rewards. The smiles on the younger students' faces when they know they are having their high school SHAPE fitness leader lead the class are indescribable. It has become one of the highlights of their week. Through the process of working with younger children, high school students get a boost in self-confidence and develop skills in working with others and in fitness that will serve them well.

—Mary Tolan-Davi
Director of Nutrition Services
Manteca Unified School District

Chapter 4

Food: Modeling Health in California Schools

The latest research speaks for itself: There is a huge problem with overweight and diabetes in children. If we don't take responsibility for that, who is going to do it? Healthy kids have better attendance and perform better at school.

—Sandy Van Houten
Director of Child Nutrition Services
Ventura Unified School District

Chapter 4

Food: Modeling Health in California Schools

THE school food environment can play a critical role in improving students' eating habits through the foods and beverages provided and the messages communicated. Multifaceted approaches are needed in promoting good nutrition for students. Changing the kinds of food and beverages offered at schools, whether through meal programs or other venues, is a significant part of such efforts. However, schools face numerous challenges in improving the school nutrition environment, such as students' eating patterns, regulatory and fiscal constraints, the lack of facilities and training for staff, and unsatisfactory support from school administrators.

Known widely as the nation's salad bowl, California is the leading producer of fruits and vegetables. Yet U.S. children are consuming fewer fruits and vegetables and are consequently becoming more overweight than in past generations. Research shows that 45 percent of children eat no fruit and that 20 percent eat less than one serving of vegetable a day (*Backgrounder to School Nutrition Programs* 2003). Examining ways that people of healthy weight might eat differently than those who are overweight, researchers found that healthy-weight children and adults consume significantly more daily servings of fruit than do those who are overweight (Lin and Morrison 2002). Therefore, increasing access to and promoting the consumption of fruits and vegetables can help students develop healthier eating habits.

Achieving lasting and comprehensive school nutrition environments requires supportive staff members, professional development, and other tools for success (Hawthorne).

Despite a report suggesting that just one soft drink a day may be associated with overweight children (Ludwig and others 2001), by the time children are fourteen years of age or older, 32 percent of young women and 52 percent of young men in the U.S. consume three or more servings of soda daily (*Policy Statement on School Health* 2004). Hence, recent efforts to upgrade school beverage choices have focused on reducing or eliminating student access to soft drinks and promoting the benefits of drinking water.

Established in 1946 under the National School Lunch Act to combat malnutrition, the National School Lunch Program (NSLP) is a federally assisted meal program that provides nutritionally balanced low-cost or free lunches to public school children each school day. NSLP meals must meet nutrition standards set by the United States Department of Agriculture and are more nutritious than many alternatives. Children who participate in the program consume greater amounts of ten key vitamins and minerals and less soda, fruit drinks, and added sugar than do children who do not participate (*Children's Diets in the Mid-1990s* 2001). In addition, studies show that participation in the school breakfast, school lunch, or food stamp programs protects low-income girls from becoming overweight (Jones and others 2003).

However, food and beverages sold outside of the school meal programs at California high schools, including à la carte items that are sold by food service departments, are not required to meet specific nutrition standards. Also exempt are food and beverages purchased from vending machines or sold to raise funds for parent and student groups, teachers, athletic departments, and other school purposes. The California Childhood Obesity Prevention Act, in effect since July 2004, does limit the sale of unhealthy beverages in elementary schools and middle schools (*Education Code* Section 49431). However, high schools will not be required to meet the standards until July 1, 2007, when Senate Bill 12 (Chapter 235, Statutes 2005) and Senate Bill 965 (Chapter 237, Statutes 2005) become effective.

À la carte and vending machine sales offer fiscal support for school nutrition programs when federal and state reimbursements fall short. Items offered are often high in fat.

Operating as self-supported businesses, school food service (also called child nutrition or student nutrition) programs run on tight budgets. Revenues are generated primarily from federal and state reimbursements provided for each lunch served and from meals sold to students and a few adults at full price (see Table 2). When the revenues fall short of program expenditures, fiscal challenges arise.

Although federal and state reimbursements are supposed to cover the cost of food, equipment, and labor for each meal served, reimbursement rates have not kept pace with inflation and cost increases. Between the 1989-90 and 2003-04 school years, the average cost of providing a school lunch in California rose 63 percent to $3.40 per meal.

Table 2

Reimbursement Rates for Each School Meal Served, 2005-06

Category	*School breakfast (federal)*	*School lunch (federal)*	*School meal (state)*
Free meals	$1.27 to $1.51*	$2.32 to $2.49	$0.1413
Reduced-price meals	$0.97 to $1.21	$1.92 to $2.09	$0.1413
Base (full-priced) meals	$0.23	$0.22 to $0.30	—

*Reimbursement is higher for schools with a higher proportion of students receiving free or reduced-price meals.

About one-third more students buy lunch at Roosevelt Junior High School (San Diego) since the salad bar opened.

During the same time period, the amount spent by school sponsors to provide meals increased 159 percent, the federal reimbursement increased only 43 percent, and the state reimbursement did not increase ("Reimbursement Rates/Cost Comparison, 1989–2004" 2005). An analysis of federal reimbursements for the school year 2000 by the Office of Analysis, Nutrition, and Evaluation of the Food and Nutrition Service revealed that the reimbursements were 6 cents short of the cost for free meals, 36 cents short for reduced-price meals, and 19 cents short for full-price meals. Given those figures, a midsized school district providing 4,000 free meals, 1,000 reduced-price meals, and 500 full-price lunches each day would lose $693 per day, $13,860 per month, and $138,000 per year.

School cafeterias strive to be self-sufficient. However, sudden increases in some nonfood expenses over which the food service department has little or no control, such as employee salaries and benefits, can be crippling. Many districts use USDA commodity foods—valued at just over 17 cents per lunch, and healthier in recent years—to keep food costs as low as possible. To bridge budget gaps, many programs obtain revenue from à la carte sales. Although some offer catering or other auxiliary services, most sell food and beverages à la carte, with sodas generally providing the highest profit margins. Some school food service directors state that the widening gap between federal and state reimbursements and local contributions has caused them to rely more heavily on à la carte sales. Unfortunately, when soda and less healthful food items make up the bulk of the sales, student health bears the brunt of the child nutrition programs' financial problems.

Food service departments often lack adequate facilities and infrastructure. For example, a school serving 300 to 500 students frequently has a kitchen with only a single sink, a warming oven or two, and limited refrigeration. And food service departments must comply with strict food safety standards and menu planning requirements. Further, because most school food service staff lack access to standardized training and continuing education, and school nutrition programs are the most closely regulated federal entitlement program, the task of making improvements becomes quite daunting.

This chapter highlights promising practices that improve school menus and environments, implement nutrition standards for food and beverage sales outside of NSLP, and increase students' opportunities to eat fresh California-grown fruits and vegetables. These school food service innovators have made strategic changes that are sending new and improved messages to students about the smells, tastes, and enjoyment of savory, nutritious foods. They have had to provide additional staff development and take some financial risks to do so but have inspired others by their success.

Promising practices include the following:

- Improving school lunch choices while reducing or eliminating à la carte items

- Increasing healthy offerings outside of the school lunch program through vending, student stores, and other fundraisers
- Offering more locally grown fruits and vegetables
- Ensuring student access to breakfast programs
- Increasing access to the school meal programs
- Creating pleasant eating environments and improving meal presentations

Improving School Lunch Choices While Reducing or Eliminating à la Carte Options

In recent years a number of school food service programs have begun to shift away from offering à la carte sales and toward improving the quality of school lunch menus. Many found that when they increased the number of menu choices, introduced new, higher-quality entrées, and added new offerings such as salad bars, their NSLP participation rates increased and generated more revenue from federal and state government reimbursements. For example, the San Diego Unified School District added salad bars at its LEAF pilot middle schools and saw lunch participation rates increase by 33 percent and the amount of fruit and vegetables selected by students by 35 percent. Although letting go of à la carte sales might raise fears of revenue loss, the following case studies illustrate how improvements in the school lunch menu can generate increased revenues and provide more students with fresh fruits and vegetables and balanced, appealing meals.

CASE STUDY

An International Marketplace

Berkeley Unified School District
Grades served: **K–12**
Enrollment: **8,843 students**
Percentage of students eligible for free or reduced-price meals: **50 percent**
County: **Alameda**

Before a LEAF grant was received, the lunch menu at Berkeley's Longfellow Middle School consisted of a few hot entrée options, such as pizza pockets and hot dogs, with little fresh produce and no salad bar. Most of the entrée items failed to comply with nutrition standards for foods sold outside of the NSLP, and the food service sold cookies, popcorn, and chips à la carte. With the help of the principal, the custodial staff, and the food service staff, Nutrition Services Director Karen Candito launched the International Marketplace, a new lunch program with ethnic entrées assembled fresh and a salad bar featuring more than 25 choices of fruits and vegetables. For three dollars students can select from numerous entrée options (reflecting cuisines from Mexico, Italy, Asia, and

The International Marketplace food court at Longfellow Middle School (Berkeley) offers students freshly assembled entrées plus fresh fruit and vegetables.

CASE STUDY

An International Marketplace (Continued)

the United States), serve themselves at the salad bar, and receive milk or juice. To encourage students to participate in the NSLP and eat a balanced meal, the director eliminated à la carte sales except for a few beverages that met the state nutrition standards.

The International Marketplace was an instant hit. NSLP participation rates increased from 22 to 37 percent at Longfellow. With the salad bar in place as a part of the NSLP, the food service increased purchases of fresh California-grown produce at Longfellow by 191 percent (Feenstra and Ohmart 2004). Having received application forms by mail at home, students and parents inundated the main office with applications to participate in the school lunch program. The percentage of students receiving free or reduced-price meals increased to 61 percent, making the school eligible for California Nutrition Network funding. That funding supports the school's garden and cooking programs, which are linked to the lunch program and health and physical education curricula.

Although the International Marketplace continues to bring in revenue, additional costs for food and employee wages and benefits still prove a challenge. From 2002 to 2004, the costs for health and welfare benefits alone increased by 23 percent annually while reimbursement rates increased only .02 percent annually. As it lobbies for increased state and federal meal reimbursement rates, the district plans to leverage funds from other sources to support the improvements.

Closure of High School Campus

Vacaville Unified School District
Grades served: **K–12**
Enrollment: **14,500 students**
Percentage of students eligible for free or reduced-price meals: **26 percent**
County: **Solano**

In 2003 Brenda Padilla, Vacaville Unified School District's Child Nutrition Services Director, found herself in the middle of a dispute over the closing of a high school campus during lunchtime. At Vacaville High School students formed a committee and insisted that they would go

Multiple and diverse menu choices, such as those now offered at Vacaville High School (Vacaville), ensure that more students find something to enjoy for lunch.

CASE STUDY

Closure of High School Campus (Continued)

hungry rather than participate in the lunch program. Seizing the opportunity to garner student comments and make positive changes in the school lunch program, the director used a collaborative approach, combining student preferences and healthy menu offerings to create a popular meal program. As a result, after the school campus was closed at lunchtime, the school lunch program expanded.

At the secondary level the district serves two middle schools and two high schools without a central kitchen. In the fall of 2003, the director and a consultant transformed the existing menu (primarily heat-and-serve products with little fresh produce) into the new Campus Catering Lunch Program, which now offers Taco Express, Fresh Express, Wok 'n' Go, and The Cutting Wedge. For three dollars students can select an entrée made with fresh ingredients, milk or another drink, and two different fruit or vegetable side dishes. To reduce competition between the complete school lunch and à la carte entrée items, the director priced each at three dollars, thereby encouraging students to buy a full meal.

The new lunch tables and shade structure at Vacaville High School (Vacaville) have created a more pleasant eating environment for students.

With the new side salads, veggie trays, fruit cups, and fresh vegetables included in entrées, Vacaville's new lunch program significantly increased the offerings of California fresh fruits and vegetables. From 2002 to 2003 produce purchases increased by as much as 333 percent (Padilla 2004). In addition to the school board's approval to close the Vacaville High School campus at lunchtime, the district's middle school principals voted to eliminate the sale of carbonated beverages.

What the director found most surprising was that the new lunch program gained more participants despite a 50-cent increase in lunch prices. From 2002 to 2003 participation in the NSLP at the high school increased by 315 percent, and 100,000 meals for the year were added. In the following year participation at the four secondary schools increased another 1.4 percent despite another price increase.

With school board approval to increase the price of meals, the director was able to offset the cost of increased staff hours and higher-quality ingredients,

CASE STUDY

Closure of High School Campus (Continued)

including fresh fruits and vegetables, better-quality breads for the sandwiches, and more sophisticated packaging. As part of the modernization effort, the schools installed overhead protection for outdoor seating and speed lines and opened up the multipurpose room for student dining. And as a key strategy for supporting healthful eating for students, the school board extended the lunch period from 25 to 45 minutes (described further on page 54).

Increasing Healthy Offerings Outside of the School Lunch Program

Beyond school lunch most California secondary students have access to food and beverages through vending machines, student stores, and student fund-raisers. In 2000 a study of U.S. schools reported that 73 percent of middle and junior high schools and 98 percent of senior high schools had vending machines, school stores, or snack bars that commonly sold items such as soft drinks, sports drinks, and salty, high-fat snacks. In 82 percent of the schools surveyed, student organizations, clubs, and sports teams sold food, most of it unhealthful, to raise money (*Fact Sheet: Foods and Beverages Sold Outside of the School Meal Programs* 2000).

The Family Support Specialist works with Nutrition Advisory Council students after school to evaluate, select, and market healthy food and drinks for fund-raising at Bud Carson Middle School (Hawthorne).

Labeled as "competitive foods" when sold during meal periods, snack foods and à la carte items are not regulated for nutritional content. Although more recent nutrition standards have provided starting points by placing limits on fat and sugar content in food and beverages on campus, high schools remain exempt from those standards until July 2007 (*Education Code* Section 49431). Yet several school districts have demonstrated leadership by eliminating sales of high-sugar, high-fat food and beverages or by replacing them with healthful alternatives as shown below:

- At the San Francisco Unified School District's two LEAF-grant school sites, Lowell and Mission high schools, students and school leaders replaced soda in vending machines with such organic items as yogurt and hummus that meet nutrition standards for non-NSLP food and beverages.
- At San Francisco's ethnically diverse Aptos Middle School (not a LEAF-

grant site), concerned parents were instrumental in setting health policy and improving the school lunch menu and à la carte options, including replacing sodas with water, milk, and juices in the cafeteria and with bottled water in the physical education department. Their motto: No Empty Calories! Besides an increase in net revenues for the school's cafeteria, administrators and teachers report more students sitting down to eat, better student behavior after lunch, less litter in the schoolyard, and higher scores on standardized tests since the changes were made (*Making It Happen* 2005).

- At the Hawthorne School District, students in the Nutrition Advisory Council (NAC) organized taste tests and oversaw the sale of healthful snacks that meet nutrition standards. These snacks were then sold in school vending machines and at the NAC Shack. The NAC not only increased offerings of healthy snack items for students but also involved students in making business decisions and raising funds for student organizations.

CASE STUDY

Vending Partnerships

Vista Unified School District
Grades served: **K–12**
Enrollment: **25,000 students**
Percentage of students eligible for free or reduced-price meals: **40 percent**
County: **San Diego**

Before 2001 Vista High School's vending machines offered candy, chips, sodas, and other not-so-nutritious snacks as a way to raise funds for various school programs. Enid Hohn, Director of Child Nutrition Services for the Vista Unified School District, was concerned about her program's revenue losses to the vendors of the machines and other competitors as well as the negative impact on student health that those choices could have. Knowing that school administrators needed revenue, she was determined to find a way to work with the administrators and the students to bring about positive change. After months of researching contract language, products and equipment, and student preferences (through focus groups and surveys), the director devised a business plan that made the food service program the sole provider of campus vending services.

Students at Vista High School (Vista) can now purchase all sorts of fresh, healthy snacks in school vending machines.

In July 2001 the high school's existing vending machines began to feature crackers, nuts, dried fruit, and other items instead of candy and chips. New

CASE STUDY

Vending partnerships (Continued)

machines also offered fresh fruit salad, fresh vegetables with ranch dip, muffins, bagels with cream cheese, cereal and milk, and other healthful food with student appeal. Soda-only machines were out; glass-front beverage units were in. These new machines offered various types of milk and juice, smoothies, and bottled water—placed at eye level and priced at one dollar. A few sports drinks and soft drink choices were placed at lower levels and priced at $1.25. Resulting beverage sales during the first year: 68 percent for water and sports drinks, 20 percent for milk or juice, and 12 percent for sodas. When after two years the soda inventory was depleted and never replaced, only a few complaints were received from students and teachers.

With full support from the district superintendent, the director convinced the school principals (reluctant at first) that partnering with her department would be better for them. The prediction proved true: Vista High School received $20,000 in commissions and bonuses the first year—more than double what it had received the previous year before the food service took over. The revenues increased to $25,000 in year two and to more than $31,000 in year three.

Lowell High School's (San Francisco) school nurse worked with students and an enthusiastic vendor to ensure healthy choices are available in school vending machines.

The food service department grossed $187,000 in the first year in which it controlled the vending machines at Vista High School. As the department captured new business, sales in other campus food service operations also increased. Although a $100,000 initial investment was made, mostly to acquire vending machines, that amount was regained in only 30 months. A staff team was involved in new ways, too. Having received training from the vending machine distributor, the food service staff manage the machines while security staff monitor them to ensure student access.

Who is winning at Vista High School? Everyone wins: principals, staff, the food service program, and, most important, students, who have access to nutritious snacks all day. Even adults attending night classes can use the machines before classes start. Building on the success at Vista High School, the director started a vending program at a second high school in 2004 with equal success. And at one middle school, the food service department converted an old cafeteria room into a fitness and nutrition center, giving students and staff access to stationary bicycles and a dance machine at breakfast and lunch.

CASE STUDY

Transformation of a Student Store

Los Angeles Unified School District
Grades served: **K–12**
Enrollment: **747,000 students**
Percentage of students eligible for free or reduced-price meals: **76 percent**
County: **Los Angeles**

Challenged to serve 4,000 students in inadequate facilities during one 30-minute lunch period, the food service staff at Monroe High School in the Los Angeles Unified School District (LAUSD) is doing all it can to meet students' needs. In recent years LAUSD's Food Service Branch has improved school lunch quality, boosting Monroe High School's participation rates from 36 percent to nearly 50 percent between 2002 and 2004. Yet because of long lines, many students prefer to go to the student store for lunch.

Lisa Rath-Jones, a science teacher on special assignment and LEAF Project Coordinator, is a staunch advocate for student health. Working to improve foods offered to students, she realized that unless the amount of time for lunch was extended or food service expanded, the student store was going to be a critical lunch option for students. At the time the student store was selling such items as hard candy, snack bars, and chips. As a LEAF grantee LAUSD adopted a new district food policy setting nutrition standards (more restrictive than the state's nutrition standards) for food and beverages sold outside the meal programs. These new standards offered the perfect opportunity to increase healthful options at the student store.

Student leaders at Monroe High School (Los Angeles) taste and evaluate snacks for potential student store sales.

The leadership class on campus collaborated with the student store's staff adviser to launch Taste of Monroe as a way to gain student opinion on what items to offer for sale. Three times a year 40 students from the leadership class choose food products for a broad range of students to taste, and once a year the class holds an all-school tasting during the day. Using the students' oral and written comments about the tasting, the leadership class decides what to offer in the student store. Through the sale of new healthy items, the student store generates enough revenue to help pay for the student store manager's time and for supplies used for the tastings.

CASE STUDY

Vending partnerships (Continued)

Leadership students have gone beyond selecting from products currently available and are now working with a manufacturer to create a new line of flavored pretzels and a fruit-juice drink to sell in the student store and in vending machines. Taste of Monroe provides a successful strategy that offers healthful food alternatives on school campuses and empowers students to take leadership in promoting student health.

I have learned a lot through LEAF. I learned that the vending machines were very unhealthy before the change and that the change was very necessary. I also learned that it is better to eat California-grown fruits and vegetables because they are fresher, and shipping time isn't as long."

—Ifeyinwa Ugo
Student Adviser
Lowell High School
San Francisco Unified School District

Profit-Sharing Partnerships

San Francisco Unified School District
Grades served: **K–12**
Enrollment: **57,835 students**
Percentage of students eligible for free or reduced-price meals: **61 percent**
County: **San Francisco**

San Francisco's Lowell and Mission high school students were facing change when a LEAF grant required pilot schools to implement specific nutrition standards for food fund-raisers on campus. No longer were student organizations allowed to set up tables of candies, cookies, or desserts for sale. With some creative thinking the nutrition services department collaborated with the associated student body (ASB) to develop a profit-sharing partnership. Student workers staffed one of the nutrition services carts to sell a chow mein school lunch meal to fellow students in exchange for 30 percent of the profit. Nutrition services provided the meals and trained the students in exchange for more points of sale without more labor costs. During its first year the partnership grossed $7,275, with $2,200 going to the ASB. Although such profit-sharing partnerships may account for only a portion of an organization's budget, they provide healthful fund-raising alternatives and support the school lunch program.

Offering More Locally Grown Fruits and Vegetables

In the United States food typically travels between 1,500 and 2,500 miles from farm to plate, as much as 25 percent farther than in 1980 (Halweil 2002). The U.S. imports produce from all over the world. As a result many children and adults no longer know how or where their food is produced. Although schools conducting the National School Lunch Program are encouraged to buy only U.S. produce, Washington apples and Florida oranges still travel many miles to the lunchroom. Yet many California school districts are neighbors to a vibrant community of local farmers growing delicious fresh fruits and vegetables. Although sustainable models continue to be explored, several school districts, with the help of nonprofit partnerships and local farmers' markets, have begun purchasing locally grown produce for their lunch programs.

CASE STUDY

Farmers' Market Salad Bars

Santa Monica-Malibu Unified School District
Grades served: **K–12**
Enrollment: **12,842 students**
Percentage of students eligible for free or reduced-price meals: **24 percent**
County: **Los Angeles**

Nationally known for its farmers' market salad bars, the Santa Monica-Malibu Unified School District provides an inspiring model for school communities around the country that want to support local farms while providing fresh fruits and vegetables for their children. Santa Monica-Malibu offers salad bars at ten elementary schools and two secondary schools and premade salads at three secondary schools. On average the district serves 800 to 1,000 farmers' market salads every day. Nutrition Specialist Dona Richwine explains that almost 99 percent of the school produce comes direct from local farmers through the farmers' market—and the children love it. Participation in the Farmers' Market Salad Program averages 25 to 30 percent of the daily lunch participation.

Twice a week food service staff order produce from farmers before market day. Early on that day a food service staff person picks up the produce at the market, sorts the orders by school, and delivers the produce to cafeterias. The district buys about a thousand dollars worth of produce per week. The salad bars are good for the students and for local farmers and provide a new market for California-grown produce.

Farmers partner with the school nutritionist at the weekly market to provide fresh produce for school meals.

In Santa Monica-Malibu the school cafeteria provides more than a place to enjoy healthful meals. It also provides a model for healthful eating within a local food system. Aided by the initial help of outside funding, the district was able to start nutrition programs like the one at Santa Monica High School, where the nutrition specialist directs a nutrition lesson for the first-year health seminar class. After a lecture and discussion about nutrition, students prepare and eat a salad containing foods from all five food groups and fruits and vegetables obtained from the farmers' market. Santa Monica-Malibu now has other self-sustaining programs, such as farmers' market tours; Edible Education, which connects the school gardens to the farmers' market; and the use of chefs in the classroom. To model a local food system, last year's high school biology class supplied the salad bar program with 45 pounds of lettuce from their garden.

CASE STUDY

Direct Purchases from Farms

Ventura Unified School District
Grades served: **K–12**
Enrollment: **17,794 students**
Percentage of students eligible for free or reduced-price meals: **36 percent**
County: **Ventura**

Before Sandy Van Houten was hired as Ventura Unified School District's Director of Child Nutrition Services, she walked onto the middle school campus of her sixth-grade son and saw sodas, candies, and other high-sugar, high-fat items being sold to the students. She recalls that "there was no nutrition education happening on campus, and the messages being sent to the students were horrible." As a parent and food service professional, she wondered what she could do to support healthy schools.

Now the district director, she has been transforming Ventura's nutrition services into a program that offers farm-to-school salad bars at 20 schools and provides nutrition education for both elementary and secondary schools. In collaboration with Community Alliance with Family Farmers (CAFF), which developed a cooperative distribution system for local farmers called the Gold Coast Growers' Collaborative, she is able to purchase local produce for the district directly from farms. If farmers are unable to deliver the produce to the school, CAFF will help with the delivery. The director now purchases 25 percent of her produce from local farms, including strawberries, tangerines, and apples. Flexibility has been important in carrying out the district vision. She explains that in some weeks she has to make last-minute decisions to include a fresh produce item in the week's menu. But she says that the effort is worthwhile because of the high quality of local produce. Since the farm-to-school salad bars were introduced, an average of 61 percent of all elementary school students eat there twice a week.

Pacific High School (Ventura) students get firsthand experience with local agriculture as part of the farm-to-school program, including salad bars featuring locally grown produce.

In collaboration with nutrition educators and with funding from the California Nutrition Network and a dedicated parent-teacher association, Ventura's nutrition services provides taste tests and cooking demonstrations for all grade levels. At Pacific High School and De Anza Middle School, students

CASE STUDY

Direct Purchases from Farms (Continued)

run a fruit smoothie project in which they learn entrepreneurial skills while they raise funds for student organizations. With training support from nutrition services staff, students develop smoothie recipes, procure ingredients, market the products, and sell the smoothies to their classmates during break time. Nutrition services also works in conjunction with the school's Student Nutrition Advisory Committee and the district's Nutrition and Physical Activity Task Force to revise and strengthen district policies in support of safe, healthy, high-performing schools.

Students at Pacific High School (Ventura) get professional help from nutrition services staff to ensure that their smoothie fund-raising project is safe and healthy.

Ensuring Student Access to Breakfast Programs

In California school breakfast programs provide nearly one million children with a nutritious start every day ("School Breakfast Program" 2005). Established in 1966 under the Child Nutrition Act, the School Breakfast Program is a federally assisted meal program that provides nutritionally balanced free or low-cost breakfasts to children in public schools.

Students who eat school breakfasts have reportedly higher attendance at school and perform better on tests than do students who have not had breakfast and are undernourished (Murphy and others 1998). Studies also show that students who participate are, in comparison with nonparticipants, more than twice as likely to eat a serving of a fruit or vegetable (*Findings from the 1999 California Children's Healthy Eating and Exercise Practices Survey* 2004). Yet only 39 percent of California children participating in the National School Lunch Program eat school breakfasts (*Low-Income Student Participation in School Lunch and Breakfast* 2005). More than 1,400 California schools do not offer the School Breakfast Program, and 1.3 million children who are eligible for free or reduced-price breakfasts do not participate. In addition, 200,000 low-income students go to a school that does not offer breakfast (*Breakfast First* 2004). Although implementing school breakfasts does require time and resources, the initial investments pay off in the long run.

CASE STUDY

Universal Breakfast in the Classroom

Hawthorne School District
Grades served: **K–12**
Enrollment: **9,800 students**
Percentage of students eligible for free or reduced-price meals: **84 percent**
County: **Los Angeles**

Every student at Hawthorne Middle School (Hawthorne) is offered breakfast in class—first thing in the morning and at no cost.

With 84 percent of students eligible for free or reduced-priced lunches, the Hawthorne School District projected that implementing a universal breakfast program would enable the district to serve all students while improving the child nutrition program's finances. This federal program allows schools with a relatively high percentage of students eligible for free or reduced-price meals to offer breakfast at no charge to all students regardless of household income. The district is then reimbursed for those meals served to students eligible for meal subsidies.

Hawthorne's projections have proven to be accurate. Having previously offered a cafeteria-based universal breakfast program, food service and school site administrators decided to try a new configuration by offering breakfast in the classroom. Pilot-tested for three summer months in four year-round elementary schools, the program was a great success. In September 2003 the administrators launched the program at the Bud Carson and Hawthorne middle schools and seven elementary schools (now back on the traditional calendar), serving breakfast to 9,000 students, about 7,000 more than when breakfast was served in the cafeteria.

Food service staff at each site prepare and count breakfast items each morning and fill insulated bags with one hot entrée, a fruit serving, and cold milk for each student. After loading the bags onto a large metal cart, staff deliver two bags to each classroom. With student help teachers distribute the food and leave the empty bags outside classrooms for the food service staff to pick up later. Teachers record on the roster (included with each set of bags) which students ate breakfast, and the food service staff keep track of that information to claim meal reimbursements. After breakfast the custodial staff picks up full trash bags outside the classrooms.

Although some teachers initially criticized the program because of the added time devoted to breakfasts in the classroom, most staff reported improved

CASE STUDY

Universal Breakfast in the Classroom (Continued)

student behavior and higher levels of concentration in class. Teachers who had insisted on reverting to breakfast in the cafeteria were within a week asking to have breakfast service returned to the classroom. Food service staff continue to work through some of the challenges, including getting food to classrooms on time, finding ways to decrease the weight of the carts when loaded with the bags, and identifying healthful, affordable, ready-to-serve food items that students enjoy. The universal breakfast program has gained major support from district administration, teachers, and students.

Serving breakfast to students in the classrooom makes sense nutritionally, academically, and financially.

—Anna Apoian
Director of Food Services
Hawthorne School District

Increasing Access to School Meal Programs

In 2004 California schools provided meals to more than 2.5 million students through the NSLP ("National School Lunch Program" 2004). But that number applies to only half of the students who could have eaten school lunches—those eligible to receive a free lunch or to purchase a lunch at a reduced or full price (*County Profile* 2004). Given that nearly two million children in California come from homes that lack access to nutritionally adequate foods, the NSLP may be a primary source of daily nourishment for some students. When students are provided with nutritious, balanced meals through the NSLP, fewer students go hungry. And increased meal program participation generates additional revenues for the school food service. For many schools, however, especially at the secondary level, barriers that prevent participation in the NSLP include the following:

- Inefficient ticket sale systems that increase the amount of time that students have to wait in line for lunch and create a stigma about NSLP participation
- Insufficient time to eat because of brief lunch periods
- Underequipped or nonexistent eating areas
- Open campuses that allow students to purchase lunches off campus
- Low turn-in rates for the NSLP applications because of a lack of outreach and education during the NSLP application process
- Social stigma associated with being from low-income households

A computerized point-of-sale system ensures that every student at Longview Middle School (Berkeley) can get lunch quickly and enjoy it stigma-free.

Several districts have begun to implement a number of strategies to reduce these barriers, as follows:

- ***Extending the lunch hour.*** With only one 25-minute period to provide lunch to 2,212 students, the Nutrition Services Director at the Vacaville Unified School District knew that to provide healthful, fresh lunches to the students, she would need at least two 35-minute lunch periods or one 45-minute period to reach so many students. District administrators found that students preferred one period because it allowed friends to stay together during lunch. After some discussion the administrators decided to maintain one lunch period and provide an additional 20 minutes for lunch for a total of 45 minutes. Despite some concern expressed by teachers regarding the longer school day, administrators approved the extension. Although the lunch extension required some schedule changes, students and teachers now enjoy the new healthy lunch program, many student groups have utilized the lunch period to organize positive leadership activities, and nutrition services is able to provide a healthful, cost-effective lunch that maximizes student participation.
- ***Installing computer point-of-sale systems.*** Before installing new point-of-sale (POS) computer systems at two middle schools, the Berkeley Unified School District food service staff passed out individual coded tickets to students while checking off names by hand—a common but inefficient method used by many schools. With the new POS system, each lunch station now has a scanner that reads a student's ID card and automatically registers the student's participation into the computer. The POS system removes any stigma associated with receiving free or reduced-price lunches while giving the Student Nutrition Services Director more accurate records of the entire lunch program.
- ***Increasing points of sale.*** Many of the LEAF pilot program middle and high schools have increased the number of locations where students can obtain school lunches. Monroe High School in the Los Angeles Unified School District stations mobile carts selling fresh salads away from the cafeteria crowds. And students at Hiram Johnson High School in the Sacramento City Unified School District can get lunch at several "grab-n-go" carts around campus.
- ***Encouraging NSLP applications.*** The San Francisco Unified School District increased NSLP application rates at Lowell High School, which in past years had a low turn-in rate, by offering parties to advisory classes and extra credit to students as incentives for turning in the forms. The Berkeley

Monroe High School (Los Angeles) students enjoy buying fresh—and reimbursable—school meals at outdoor carts.

Unified School District mailed applications directly to families of middle school students instead of relying on students to take them home. A 15 percent jump in NSLP participation warranted the added cost.

Creating Pleasant Eating Environments and Improving Meal Presentations

Adults often consider the ambience of a restaurant in choosing where to eat. A student's eating experience also extends beyond the menu. From food presentation to service at the counter, students appreciate school lunch experiences that are appealing, welcoming, and enjoyable. And while some cafeteria improvements can be extensive, others can involve simple changes, such as painting the walls, providing updated, colorful uniforms for staff, or presenting meals with attractive new packaging. Some examples are as follows:

- The Sacramento City Unified School District featured new clear packaging that allowed Hiram Johnson High School students to view and choose quickly items from the "grab-n-go" menu. Participation rates increased as a result of the introduction of this method of meal presentation.
- The Los Angeles Unified School District added new lighted menu signs, an electronic reader panel to post nutrition and physical activity messages and daily menus, new tables for outside eating areas, colorful awnings sporting the school mascot, and new salad bar carts to the Venice and Monroe high schools.
- The San Diego Unified School District painted murals of fruits and vegetables on the wall outside the cafeteria and painted outdoor picnic tables in bright colors.

CASE STUDY

Cafeteria Makeovers

Moreno Valley Unified School District
Grades served: **K–12**
Enrollment: **34,792 students**
Percentage of students eligible for free or reduced-price meals: **61 percent**
County: **Riverside**

In 2003 Lia Robinson, Nutrition Services Director for the Moreno Valley Unified School District, decided that the time had come to give the school lunch program a makeover. Aware of the increasing numbers of obese children, the director was determined to increase participation in the National School Lunch Program by making it more attractive and moving away from offering à la carte items. Convinced that she could do so without jeopardizing the food service department's finances, she created a business plan for improving menus and the cafeteria and for marketing the changes. In a bold move she and her staff eliminated the hot à la carte lines at all six middle schools and two high schools and simultaneously introduced new, healthier lunch entrées, including vegetarian wraps, spicy chicken sandwiches, chef salads, and freshly made burritos.

We successfully deinstitutionalized the cafeteria look by using props to achieve the desired ambience. We accomplished all of this with no grant funding or support, and it worked.

—Lia Robinson
Nutrition Services Director
Moreno Valley Unified School District

CASE STUDY

Cafeteria Makeovers (Continued)

Working with eight secondary school sites, the director collaborated with students to choose themes for their school cafeterias and develop a new food court look. She also purchased staff uniforms and contracted with a muralist to paint the cafeteria walls to match the themes. Soon the serving areas were transformed into tropical islands, sports arenas, underwater worlds, and school mascot cafés. Although some of the changes were elaborate, many were cosmetic and involved minimal expense. Simple changes in meal presentation, including the use of baskets lined with linens for condiments and more appealing packaging, helped make students feel as though they were eating out.

Since separate à la carte lines were eliminated and new, streamlined menus in updated environments were introduced, NSLP participation has increased by 30 percent. The amount of labor needed was reduced by 15.5 hours per day because of the elimination of à la carte sales. Despite a 47 percent decrease in those sales, which amounted to $1,687 of revenue lost per day, lunch sales at the secondary sites increased by $2,102 per day for a net increase of $415 per day. With astute marketing and student involvement, therefore, Moreno Valley's nutrition services sustained the shift away from à la carte sales by increasing healthful menu offerings and investing in a new look for the eating areas.

Students at Sunnymead Middle School (Moreno Valley) helped determine the themes for this cafeteria makeover.

Recommendations

Recommendations

THE practices highlighted in *Taking Action for Healthy School Environments: Linking Education, Activity, and Food in California Secondary Schools* represent opportunities for schools to increase nutrition and physical activity in support of students' academic achievement. The LEAF grant program helped a few California middle schools and high schools to initiate important strategies, and other school districts have improved school nutrition and physical activity without LEAF funding. But for all California children to benefit from those efforts, California schools need clear policies and long-term funding. A team effort involving local educational agencies and state government can achieve that purpose.

Positive changes—from simple to complex—that will affect students and communities now and for years to come can happen only with local support. In partnership with state efforts, the Department recommends that:

1. District administrators support the ongoing use of broad-based school health or wellness councils or advisory committees, as required by federal legislation (Public Law 108-265, Section 204), to develop and implement local wellness policies.
2. District wellness committees involve and educate stakeholders throughout the policy development process, using tools such as public hearings, health forums, focus groups and surveys, and the media to address all eight areas of coordinated school health: health education, physical education, nutrition services, parent and community involvement, health services, health promotion for staff, a safe and healthy school environment, and psychological and counseling services.
3. School boards adopt comprehensive local wellness policies that include (a) nutrition guidelines for food and beverages served or sold outside the school meal programs; (b) high-quality instruction in physical education and health education for all students; (c) goals to ensure that all students engage in daily vigorous physical activity; and (d) goals for integrating nutrition education throughout the curriculum.
4. District administrators collaborate with each other and with community health providers and organizations in providing comprehensive professional development for all certificated and classified staff on developing healthy school environments, becoming healthy role models for students, delivering experiential nutrition education (including instructional gardens and classroom cooking), and emphasizing the important role of school meals in supporting academic achievement.
5. School districts use the new state-adopted health textbooks and health education content standards (when adopted) in their health education programs.

6. District administrators and teachers implement standards-based physical education instruction based on the *Physical Education Model Content Standards for California Public Schools* while providing staff development opportunities for physical education teachers.
7. School decision makers give physical education equal priority with other academic subjects. For example, school events such as assemblies and photo sessions would not be held during physical education classes more frequently than during other classes.
8. District administrators and local decision makers seek additional sources of funding for physical activity equipment and programs and explore ways to increase physical activity indoors and outdoors.
9. School boards enforce wellness policies and ensure that advertising on campus promotes physical activity and the consumption of nutritious meals and snacks.
10. School food service departments, with school administrators' support and student participation, move toward reducing or eliminating à la carte food and beverage sales while increasing access to and the appeal of school meals.
11. School administrators partner with food service departments and other school groups, such as through fund-raising, to increase the healthfulness of food and beverages offered outside of school meal programs.
12. School food service directors and school business administrators explore avenues for purchasing locally grown fruits and vegetables for school meal programs, offering successful breakfast programs, and creating pleasant eating environments.
13. State and local decision makers obtain increased funding for school meals, including funding to assist schools with procuring such needed technology as point-of-sale computer systems and nutrient analysis software.

Carpinteria Middle School's (Carpinteria) food service manager's involvement in the advisory committee has empowered her to implement positive change and be an advocate for student health as a member of the school's education team.

Resources

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Works Cited

Additional Resources

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Additional Resources

The following publication and Web site data were provided by the Nutrition Services Division. Questions about the material should be addressed to that office at (916) 445-0850.

American Cancer Society. Provides a guide on school health councils titled *Promoting Healthy Youth, Schools, and Communities: A Guide to Community-School Health Councils*. http://www.schoolhealth.info

California Adolescent Nutrition and Fitness (CANFit) Program. Engages communities and builds their capacity to improve the nutrition and physical activity status of California's low-income African American, American Indian, Latino, Asian American, and Pacific Islander youths ten through fourteen years of age. http://www.canfit.org

California Association for Health, Physical Education, Recreation, and Dance. Promotes healthy lifestyles through education and provides leadership in health, physical education, recreation, and dance. http://www.cahperd.org

California Center for Physical Activity. Champions creative solutions for increasing everyday activity in California, serves as an expert resource for California physical activity partners, and helps communities create more walkable and bikeable neighborhoods. http://www.caphysicalactivity.org/achievements.html

California Center for Public Health Advocacy. Raises awareness about public health issues and mobilizes communities to promote the establishment of effective health policies. http://www.publichealthadvocacy.org

California Department of Education. Provides several resources:

- *Building Infrastructure for Coordinated School Health: California's Blueprint*. http://www.cde.ca.gov/ls/he/cs/documents/blueprintfinal.pdf
- California Superintendents' Challenge. http://www.cde.ca.gov/eo/in/ch
- *A Child's Garden of Standards: Linking School Gardens to California Education Standards*. 2002. Features effective garden-based learning strategies together with integrated academic curricula in grades two through six.
- *Fresh Fruit and Vegetable Photo Cards*. 1997. A set of 142 color photographs displaying fruits or vegetables and containing educational information on the reverse of each card.
- *Getting Results, Update 5: Student Health, Supportive Schools, and Academic Success*. 2005. http://www.gettingresults.org/c/@lRwgf8lpxwxtc/Pages/downloads.html
- *Healthy Children Ready to Learn: Facilities Best Practices*. Forthcoming. School Facilities Planning Division. Telephone: (916) 322-2470.
- *Kids Cook Farm-Fresh Food*. 2002. An activity guide linking academic content standards through gardens, nutrition, cooking, recycling, and the environment.

- Nutrition Services Division. Provides technical assistance and resources to California schools regarding school nutrition programs, SHAPE California, and wellness policy development. Telephone: (916) 322-8310 or 1-800-952-5609. *wellness@cde.ca.gov.* http://www.cde.ca.gov/ls/nu
- *Nutrition to Grow On*. 2001. A curriculum for grades four through six designed to teach children and their families about nutrition through lessons linked to garden activities.
- *School Nutrition . . . by Design!* Report of the State Superintendent of Public Instruction's Advisory Committee on Nutrition Implementation Strategies. Offers recommendations for improving the nutritional quality of food and beverages sold or served on school campuses. http://www.cde.ca.gov/ls/nu/he/advisory.asp

California Food Policy Advocates. Provides information on and advocates improving the health and well-being of low-income Californians by increasing their access to nutritious and affordable food. http://www.cfpa.net

California Healthy Kids Resource Center. Publishes *Guidance for the Development of California School Wellness Policies* and reviews and maintains a comprehensive collection of health education materials loaned at no cost to teachers, administrators, staff, parents, and others for teaching students in preschool through grade twelve and providing professional development. Telephone: 1-888-318-8188. http://www.californiahealthykids.org/c/@tlmJV8SGai8VM/Pages/npapp.html

California Project LEAN (Leaders Encouraging Activity and Nutrition). Provides several Web-based resources at http://www.californiaprojectlean.org for school personnel, students, parents, and community members:

- *Bright Ideas Program*. Showcases successful or promising examples of healthy eating and physical activity strategies that have made it easier for youths to eat healthy food and be physically active at school.
- *Snack Calculator.* Compares a food item's nutrition content with nutrition standards.
- *Teens Only.* Offers advice on nutrition, physical activity, and student activism.

California School Boards Association. 2005. *Student Wellness: A Healthy Food and Physical Activity Policy Resource Guide*. Published jointly with California Project LEAN. Provides school governance leaders with a step-by-step approach to enhance the school environment so that students can develop and practice healthy eating habits. Also offers a supplement on physical activity policy development. http://www.csba.org/PS/hf.htm

Center for Ecoliteracy. 2005. *Rethinking School Lunch Guide*. Provides a planning framework containing tools and creative solutions to the challenges of improving school lunch programs, academic performance, ecological knowledge, and the well-being of children. http://www.ecoliteracy.org/programs/rsl-guide.html

Center for Food and Justice, Urban and Environmental Policy Institute. 2002. *Healthy School Food Policies: A Checklist*. Includes policy options, ideas, and examples. http://departments.oxy.edu/uepi/schoolfoodschecklist.htm

Center for Science in the Public Interest. 2003. *School Foods Tool Kit*. Divided into three sections: how to improve school foods and beverages, model materials and policies, and case studies. http://www.cspinet.org/schoolfoodkit

Center for Weight and Health, University of California, Berkeley. Provides a fiscal impact analysis and other evaluation reports on Linking Education, Activity, and Food (LEAF) grants, as well as information on funding opportunities for weight and health-related activities. http://nature.berkeley.edu/cwh

Centers for Disease Control and Prevention. Publishes several resources:

- *Guidelines for School and Community Programs to Promote Lifelong Physical Activity Among Young People*. 1997. http://www.cdc.gov/mmwr/preview/mmwrhtml/00046823.htm
- *Guidelines for School Health Programs to Promote Lifelong Healthy Eating*. 1996. A resource for policy development and program decision making. Telephone: 1-888-231-6405. http://www.cdc.gov/HealthyYouth/index.htm
- *School Health Index*. An assessment tool for different grade levels that can be tailored to a particular school's needs. http://apps.nccd.cdc.gov/shi

Community Alliance with Family Farmers. Publishes *Making the Farm Connection,* a manual designed for farmers and teachers to prepare them for visits to farms by students. http://www.caff.org/programs/farmconnectionmanual.pdf

Community Food Projects Competitive Grant Program. Fights food insecurity by developing community food projects to promote self-sufficiency in low-income communities. Telephone: 1-800-333-4636. http://www.csrees.usda.gov/nea/food/in_focus/hunger_if_competitive.html

Community Food Security Coalition. Dedicated to building strong, sustainable, local and regional food systems that ensure access to affordable, nutritious, and culturally appropriate food for all people at all times. http://www.foodsecurity.org/index.html

Michigan Department of Education. *The Role of Michigan Schools in Promoting Healthy Weight*. 2001. http://www.michigan.gov/documents/healthyweight_13649_7.pdf

National Association of State Boards of Education. *Fit, Healthy, and Ready to Learn*. 2000–2005. Provides direction on establishing an overall policy framework for school health programs and policy examples that can be adapted to local circumstances. http://www.nasbe.org/HealthySchools/fithealthy.html

National Farm to School Network. A collaborative project designed to strengthen and expand activities in states with existing programs and assist others that do not yet have programs. http://www.farmtoschool.org

National Food Service Management Institute. Provides resources for school food service programs, such as the *School Foodservice Survey Guide* (2004) and Foodservice Analysis and Benchmarking Service. Telephone: 1-800-321-3054. http://www.nfsmi.org/information/guide.html

North Carolina Department of Public Instruction. 2002. *Effective School Health Advisory Councils: Moving from Policy to Action*. http://www.nchealthyschools.org/docs/shac_manual.pdf

United States Department of Agriculture, Food and Nutrition Service. Offers several resources:

- Local school wellness policy. Provides requirements, basic steps, sample policies, and other information. http://www.fns.usda.gov/tn/Healthy/wellnesspolicy.html
- *Changing the Scene: A Guide to Local Action*. 2000. A tool kit that address all aspects of the school nutrition environment, including meals, other foods, nutrition education, and marketing. http://www.fns.usda.gov/tn/Resources/changing.html
- Team Nutrition. Provides training materials and technical assistance for food service professionals serving in child nutrition programs, nutrition education for children and their caregivers, and school and community support for healthy eating and physical activity, including *Making It Happen! School Nutrition Success Stories* (FNS-374). 2005. http://www.fns.usda.gov/tn/
- Other guidance and support to federally funded nutrition assistance programs. http://www.fns.usda.gov/fns/

Publications Available from the Department of Education

This publication is one of approximately 600 that are available from the California Department of Education. Some of the more recent publications or those most widely used are the following:

Item no.	*Title (Date of publication)*	*Price*
001603	Adult Education Handbook for California, 2005 Edition (2005)	$14.50
001559	Aiming High: High Schools for the Twenty-first Century (2002)	13.25
001537	Arts Education Toolkit: A Visual and Performing Arts Program Assessment Process (2001)	13.25
001584	Bullying at School (2003)	14.25
001610	California Public School Directory 2005-06 (2005)	26.50
001612	California School Accounting Manual, 2005 Edition	29.95
001618	California Special Education Programs: A Composite of Laws (28th Edition) (2006)	29.95
001579	A Child's Garden of Standards: Linking School Gardens to California Education Standards, Grades Two Through Six (2002)	17.50
001571	Education and the Environment: Strategic Initiatives for Enhancing Education in California (2002)	11.00
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001389	English–Language Arts Content Standards for California Public Schools, Kindergarten Through Grade Twelve (1998)	12.50
001578	English-Language Development Standards for California Public Schools, Kindergarten Through Grade Twelve (2002)	12.50
009714	Environmental Education Compendium for Communities: A Review of Curricula on Natural and Built Environments (2003)	17.00
001620	Fact Book 2006: Handbook of Education Information (2006)	18.00
001570	Foreign Language Framework for California Public Schools, Kindergarten Through Grade Twelve (2003)	15.50
001365	Fresh Fruit and Vegetable Photo Cards (1997)	45.00
009703	Getting Results, Update 5: Student Health, Supportive Schools, and Academic Success (includes CD-ROM containing entire Getting Results series) (2005)	25.00
001560	A Guide for Vision Testing in California Public Schools (2005)	12.50
001574	Health Framework for California Public Schools, Kindergarten Through Grade Twelve (2003)	17.50
001488	History–Social Science Content Standards for California Public Schools, Kindergarten Through Grade Twelve (2000)	12.50
001598	History–Social Science Framework for California Public Schools, Kindergarten Through Grade Twelve, 2005 Edition with New Criteria for Instructional Materials (2005)	17.50
001547	Kids Cook Farm-Fresh Food (2002)	15.00
001457	Mathematics Content Standards for California Public Schools, Kindergarten Through Grade Twelve (1999)	12.50
001611	Mathematics Framework for California Public Schools, Kindergarten Through Grade Twelve (2005 Edition) (2006)	19.95
001512	Nutrition to Grow On: A Garden-Enhanced Nutrition Education Curriculum for Upper Elementary School Children (2001)	17.50
001605	Physical Education Model Content Standards for California Public Schools, Kindergarten Through Grade Twelve (2006)	12.50*
001462	Reading/Language Arts Framework for California Public Schools, Kindergarten Through Grade Twelve (1999)	17.50
001553	Recommended Literature: Kindergarten Through Grade Twelve (2002)	38.00
001562	Safe Schools: A Planning Guide for Action (2002)	12.00
001561	Safe Schools: A Planning Guide for Action Workbook (2002)	9.50
001505	School Attendance Improvement Handbook (2000)	14.25
001496	Science Content Standards for California Public Schools, Kindergarten Through Grade Twelve (2000)	12.50
001599	Science Framework for California Public Schools, Kindergarten Through Grade Twelve, with New Criteria for Instructional Materials (2004)	17.50
001445	Science Safety Handbook for California Public Schools (1999)	17.50
001472	Strategic Teaching and Learning: Standards-Based Instruction to Promote Content Literacy in Grades Four Through Twelve (2000)	15.00

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