

# Investing in Our Children's Future:

## Building Sustainable Environmental Health Programs in Our Schools

By Peter Grevatt

*Providing safe and healthy learning environments for our children is a fundamental way to advance sustainability in our K-12 schools. However, according to reports by the Government Accountability Office, the U.S. Department of Education, the American Federation of Teachers and other organizations, many schools are in poor condition, and many have environmental health issues (GAO 1995) (GAO 1996) (DoEd 1999) (AFT 2008). Research shows that a school's physical environment impacts the health, performance, and productivity of both the students and the staff. Healthy, efficient school environments embrace sustainable practices that promote good health, generate additional funding for schools, improve academic performance, and evoke a spirit of environmental stewardship and accountability amongst students and staff. By encouraging the adoption of school environmental health programs and innovative green practices, the nation will reap long-term benefits from healthy, high-performing schools.*

**H**ealthy, high-performing schools offer long-term benefits with multiple rewards that will benefit society now and well into the future. In addition to helping protect the health of students and staff, environmental health programs ensure that schools make healthier, safer and more cost-effective choices in managing their indoor and outdoor environments. That's why the Environmental Protection Agency (EPA) aims to take environmental protection to the next level of sustainability by drawing on advances in science and technology; implementing government regulations; and establishing voluntary State guidelines to encourage the adoption of best practices to protect children's health, all while encouraging innovative green practices in schools.

### Making the grade

One way to promote the creation of healthy, high-performing schools is to establish State or Tribal environ-

mental health programs to support an enhanced focus on the environmental conditions of school facilities. EPA is currently establishing voluntary School Environmental Health Program Guidelines to assist States and Tribes with implementing state school environmental health programs. The voluntary guidelines will emphasize the importance of creating state and tribal programs that support and encourage the use of best practices to benefit school districts with limited resources, as well as those districts that are already making significant strides in improving the environmental health of schools.

School environmental health programs are instrumental to promoting sustainability by advancing policies and strategies that meet society's present needs without compromising the ability of future generations. Moreover, healthier school environments can bring money into the school by lowering absenteeism and increasing funding



based on Average Daily Attendance (ADA) (EPA 2010). The healthier the school environment, the more likely students will be healthy enough to attend school.

In addition to cost savings, a number of studies have confirmed the relationship between a school's physical condition, especially its lighting and indoor air quality, and student performance (EPA 2010). According to a pilot study investigating classroom ventilation rates, children in classrooms with higher outdoor air ventilation rates tend to achieve higher scores on standardized tests in math and reading than children in poorly ventilated classrooms (Shaughnessy, et al. 2006). Additional research also shows that modest changes in room temperature (e.g., 77°F to 68°F) can have a positive impact on the students' ability to perform mental tasks

requiring concentration, such as addition, multiplication and sentence comprehension (Wargocki and Wyon 2007). Studies such as these, demonstrate that school environmental conditions impact not only the health of students, but their academic performance as well.

In addition, students and staff must be healthy enough to physically come to school in order to get the most from the curriculum. A school that minimizes health risks potentially minimizes the number of sick days for students and staff, putting that school in a better position to become a high-performing facility. When policies and practices for healthy environments are strategically implemented, the benefits stretch far beyond improved environmental health to include reduced operating costs, higher test scores, increased teacher satisfaction and reduced liability.

#### **Basic principles of a healthy school environment**

A healthy school environment addresses seven basic principles: The school should be 1) clean and dry; 2) free from contaminants; 3) pest free; 4) well sited; 5) designed for high performance; 6) energy and water efficient; and 7) have good indoor air quality. Incorporating these principles into day-to-day maintenance and operations leads to more healthy and high-performing schools for our future leaders.

When it comes to healthy schools, facility designers and school officials are increasingly embracing “high-performance” school designs. These designs use an integrated, “whole building” approach to school planning that incorporates current technology and common sense principles to protect health while saving energy, natural resources, and money. In terms of utility costs alone, school districts can save 30–40% annually for new schools and 20–30% for renovated schools by applying high-performance design and sustainability concepts (EPA 2010). For example, a typical 450-student elementary school

today pays over \$45,000 annually for energy-related utilities. Incorporating energy-efficient design improvements into the design and building of the school could save that school \$13,000 annually (Heschong Mahone Group 1999). These designs can also incorporate practices that yield additional benefits through improved occupant health, productivity and performance from integrating high-performance design features.

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Oftentimes, there is an assumption that adopting green and healthy practices and designs in schools requires major renovations or costly reconstruction, but that doesn’t have to be the case. There are a number of simple, cost-effective ways to lay the foundation toward making environmental changes that have a major impact. Practices like keeping vents clean and clear of clutter; drying wet areas within 24-48 hours; and removing dust with a damp cloth can help improve indoor air quality, reduce pest contamination and exposure to contaminants, as well as prevent serious and costly maintenance issues in the future.

Identifying the areas of greatest need and the resources that are available will help a school determine where to focus its initial efforts. The ultimate goal, however, is to integrate all seven principles into a comprehensive, well-structured school environmental health program. After taking

initial steps, it’s important for schools to take action and implement other critical best practices toward becoming a healthy and high-performing school.

#### **Paying it Forward**

Focusing on school environmental health programs not only provides a return on investment for individuals but for society as well. Incorporating facility best practices, energy efficiency, and other environmental health concepts in the students’ curriculum and staff training will ultimately advance sustainability. Both staff training and student curriculum are vital components of a school environmental health program because they promote behavior changes that improve school environments and can potentially impact areas beyond the school campus. School environmental health programs encourage the entire school population to participate in a school’s success. From school administrators and teachers, to nurses and maintenance personnel, all staff members play an important role in protecting the school’s environmental health. Staff training is an effective way to ensure that staff members understand their roles and how they can contribute to keeping the school “green and healthy.” The health program coordinator, school staff, maintenance personnel and any other persons involved with implementing policies and procedures for effective cleaning and building maintenance are the front line for environmental changes in schools. Adequate staff training helps to create the support for environmental health necessary to move sustainability forward within our schools.

While building an awareness of environmental health at schools might begin with the staff, the students play an integral role as well. From an academic standpoint, integrating environmental education into daily assignments, projects, and lesson plans teaches students the importance of environmental health and helps them become active participants in implementing the rules and behaviors asso-

ciated with maintaining a healthy school. Environment-based education can also help improve student's critical thinking skills (Ernst and Monroe 2004). Similarly, volunteer opportunities, clubs, and organizations are great ways for schools to promote environmental health issues while teaching students environmental stewardship and how to practically apply the lessons learned in the classroom. Lessons and experiences gained in schools can potentially expand to the home and local communities - reinforcing the concepts associated with creating healthy, sustainable environments.

### **If it's not Healthy, it's not Sustainable**

When announcing the National Research Council study on sustainability, Lisa Jackson, Administrator for the EPA, stated "We have a new opportunity now to focus on how environmentally protective and sustainable we can be. It's the difference between treating disease and pursuing wellness." The bottom line is you can't have sustainability if you don't address health.

In terms of the race to sustainability, environmental health, and funding, schools that focus on health and high-performance are the winners. By decreasing spending in areas such as electricity, gas, water, and maintenance, school districts can decrease their environmental footprint while increasing funding for salaries, books, teaching supplies, and other items that support the true mission of schools: educating students.

Healthier school facilities and campuses can be leveraged as learning tools to educate students and staff about healthy environments and sustainability. By encouraging the adoption of school environmental health programs and innovative green practices, we put future generations at the heart of sustainability and make a long-term investment in establishing healthy, high-performing schools. The return on this investment is the protection of our children's health as we meet the needs of the current generation while strengthening the possibilities for future generations. ■

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