

Why Are Green Schools Important?

With utility costs continuing to rise, school budgets are under severe pressure throughout our region. Green schools cost less to operate, freeing up resources to truly improve students' education.

The quality of educators and curriculum are the most important factors in a student's scholastic performance, but the quality of school facilities – where students learn – is often overlooked. School buildings can enhance a student's ability to learn by keeping them healthy, attentive and present.

Indoor Air Quality

Students in America miss approximately 14 million school days per year because of asthma (according to the U.S. Centers for Disease Control and Prevention). Controlling exposure to indoor environmental factors, such as carbon monoxide, dust and pollen, could prevent more than 65 percent of asthma cases amongst elementary school-age children, reports the American Journal of Respiratory and Critical Care Medicine. With public schools relying on average daily attendance rates to receive federal funding, improved attendance is of particular importance.

More than 20% of public schools report having unsatisfactory indoor air quality (according to the Department of Education). Carnegie Mellon University has shown in studies that there is an average overall health improvement rate of 41 percent due to improved indoor air quality. By improving indoor air quality, green schools can improve the health of students, faculty and staff, potentially decreasing sick days.

According to researchers at Lawrence Berkeley National Laboratories, when ventilation rates are at or below minimum standards, an associated decrease of 5-10% occurs in certain aspects of student performance tests (LBNL IAQ Resource Bank).

Acoustics

Optimizing classroom acoustics so children can hear is a primary foundation for learning. Many studies confirm the importance of low background noise level and speech intelligibility in maintaining appropriate acoustic conditions for student learning (Berg et al., 1996; Crandall & Smaldino, 1995; Knecht et al., 2002). A green school features acoustical ceiling tiles, lined ductwork and HVAC systems with appropriately placed vents, and therefore provides an environment that lessens distractions and encourages participation.

Thermal Comfort

Comfortable indoor temperatures enhance productivity and keep students more alert. Fresher, cleaner air can be achieved with windows that open or ventilation systems that provide a constant supply of air.

Daylighting

When deprived of natural light, studies have shown that children's melatonin cycles are disrupted, likely having an impact on their alertness during school (Figueiro & Rea, 2010). Skylights and large windows allow daylight to stream in, reducing energy costs and improving student concentration.

Experiential Learning

Teachers at green schools can use the building as the basis for project-based, experiential learning. Green schools provide a clear opportunity to connect students with curricula in environmental and science technology engineering and mathematics (STEM) education, and can serve as a tool for interactive lessons across all subjects. For example, math students can track and chart utility cost savings, science students can analyze and compare the difference between eco-friendly and traditional cleaning products, and humanities students can debate the impacts communities have on their environments. Every student can benefit from the opportunity for hands-on learning, and demonstrate the interconnectedness of the built environment and natural systems.

The Students

In many ways, the most powerful proponent or voice in the high-performance green-school movement is that of the students. The current K-12 school- and college-age student populations have adopted the environmental movement as one of their own social, political and philosophical goals. That's good news for educational facility executives, as well as school boards and teachers, who want to tap into that enthusiasm and green their schools and campuses. Students are also one the best resources for educating mom, dad, brothers and sisters about the importance of sustainability to our world.