Chapter 25

School Safety and Green Schools

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ABSTRACT

Leaders in global communities face many issues and challenges in planning, securing funding, designing, and constructing safe, sustainable green schools. This chapter provides an overview of various safety challenges that have an impact on the safety of air quality in schools and reasons why green schools are safer and healthier schools. Suggestions are provided in each section to help administrators and districts move conventionally constructed schools closer to green safe spaces for students, staff, and teachers.

INTRODUCTION

Children should be surrounded by home, school and community spaces that have high health and safety standards. After in-school safety violations such as Sandy Hook, public, private and charter schools in the U.S. have begun to develop and implement plans for regular safety audits to test security responses, and evaluate campus surveillance, safety procedures, and emergency preparedness. School leaders begin to review student and school handbooks and district or state policies to respond to campus layout and school visitation procedures (Swartz, 2013). However, many safety issues in conventionally constructed schools stem from internal environments, not external events.

Students in this country and around the globe daily attend unhealthy schools that restrict their ability to learn. Many key questions concerning school safety have resulted from discussions on safety from internal environments: Who is responsible? Who is liable? Who will fund and/or pay for safety initiatives? Who determines how safe school initiative funds are distributed? Are the schools in the countries, states, counties, parishes, cities, suburbia receiving equal funding? Do all stakeholders meet to make suggestions and agree to evaluate, to design and to fund green school facilities? Who or what agency will certify the green standards for safe schools? In response to the conditions within schools, a recent and rapidly growing trend is to design new schools and retrofit existing schools through specific intents to provide comfortable, healthy, and safe learning environments.

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SAFETY CONCERNS

During times of an expanding or shrinking student population and limited school budgets the additional costs of building green high performance schools rather than conventionally built schools is a major obstacle (Kats, 2006). A national review of 30 green schools (Center for Green Schools, 2013) found that green schools cost a little less than 2 percent (or about $3 per square foot) more than a conventional school, but provide financial benefits that can be 20 times as large as the initial investment. According to Kats conventional schools are usually designed to meet building codes that are often incomplete or do not specifically consider internal healthy space concerns. Designing schools to meet minimum code performance does tend to minimize initial capital costs, but the resulting school buildings are not designed to provide comfortable, healthy, safe, and productive environments for students or staff.

BUILDING SITES

The first safety concern for building green schools should be the selection of the building site. Sutak (2008) delivered a scathing indictment of Los Angeles Unified School District (LAUSD) “public work disaster of biblical proportions” (p. 427). In 1985 when LAUSD faced overcrowding, the district proposed a new school that would serve mostly minority students from low-income neighborhoods on land that had been the site of an abandoned oilfield. Although a state report warned of the toxic risks, construction crew broke ground in 1997. Two years later, the state officials halted construction due to concerns over insufficient testing and the absence of a risk mitigation plan to eliminate gases gathering beneath partially completed buildings. Three years later, in 2000, construction was stopped altogether when parents and LAUSD knew that the site was saturated with toxins. By 2005, LAUSD spent $1.7 million on site cleanup and planned to spend an additional $111 million to rebuild structures that had been halted prior to completion. Unfortunately, this is not the only example of unhealthy school buildings or schools built on unsafe locations.

More recently in 2013, another school building site in California was described as “toxic and unsafe” by some city leaders and members of the public (Piersall & Graham, 2013). The land adjoining the west side of the building site where the fifth Irvine city high school is expected to be built has an old capped military base landfill that had been used from 1943 to 1955 and is likely to be contaminated with scrap metal, incinerator ash, construction debris, solvents, and hydraulic fluid. In addition to environmental safety issues, the community and families of students were concerned that the James A. Musick jail is just east of the proposed new school site. In Orange County, California, 20 schools are located less than a mile from a county jail. Sixteen of those schools are in Santa Ana, surrounding the Central Jail Complex, a facility that houses minimum to maximum-security prisoners.

In response to healthy school concerns, the Mississippi Board of Education lists that one of the criteria for evaluation of a proposed building site is to be free of odors, dust, dirt, noise and smoke that are usually associated with factories, stockyards, railroads, mills and agricultural chemical aerial spraying. The site has to be free of hazardous waste (Mississippi Board of Education, 2011). These BOE guidelines are based on both the Mississippi Office of Healthy Schools (MOHS) 2011 Healthy School Environment guidelines for school buildings and grounds and the United States Environmental Protection Agencies 2011 School Siting Guidelines. The EPA’s voluntary guidelines for selecting safe school environments state that the site considered for school buildings should pose no “unacceptable environmental or public health risks…from pollutants in air, soil and water” (p. 44).