More than a fourth of all children and educators occupy school buildings that are subpar and are catalysts for health issues (Whelan, 2007). Half of America’s schools’ poor indoor environmental quality attributes have led to increased teacher and student absenteeism, teacher turnover, and subsequent high cost for health care (Whelan, 2007). Overcrowded buildings combined with improper air flow, also affect the quality of air inside a building (Deros, Ismail, Khamis, Yusof, & Imail 2012). Air pollutants inside the school building have caused an increasing number of sick days taken by employees due to respiratory illnesses (Jones, Axelrad, & Wattigney, 2007).
It is critical to design school buildings with intentions of bettering buildings for primary occupants. According to Deros et al. (2012), healthy individuals are more productive. Personal and social individuality is nurtured in the school environment that promotes a quality educational foundation for young people irrespective of their social demographics (Edgerton, McKechnie, & McEwen, 2010). The mission of a school district is articulated by and implemented through the design of its school buildings (Wiles & Bondi, 2002).

It is the school board’s implied responsibility to build quality learning facilities (Earthman, 2009). School buildings are beacons to the community they serve and are commitments to the community for its future (Johnson & Bernabie, 2006). School districts’ stakeholders who expect learning and teaching to subsist in deplorable building conditions are militating better opportunities for students’ future success. These impacts are evident in students’ test scores, districts’ wasted funds, and health issues of the building occupants (American Federation of Teachers, 2008).

According to Wiles and Bondi (2002), building warmth is one of the physical indicators in an educational facility that promotes learning. Kats (2006) suggested improved indoor environmental quality positively impacted the feeling of satisfaction of building occupants. A reduction in non-educational noise, ability of the building’s occupants to control the temperature in their work space, and an increase in proper lighting fostered a feeling of satisfaction within the working environment (American Federation of Teachers, 2008; Kats, 2006).

According to Kats, (2006) improved indoor environmental quality will decrease the building’s occupants’ absenteeism; reduction in absences is an indicator of building occupants’ satisfaction with the design of their building. A reduction in non-educational noise and an increase in proper lighting will create a positive teaching and learning environment (American Federation of Teachers, 2008; Kats, 2006). Student performance is the fundamental charge for a school to obtain a LEED-certification (American Federation of Teachers, 2008).
The green building is nascent strategy in school building design; school districts are spending the tax-payers’ funds to implement green school design. The school building is posited to have many benefits: environmentally friendly, cost efficient over life span of the structure, and supportive of occupants’ comfort and performance.

The use of multiple methods of data aggregation were used to gain a better understanding as to why the occupants felt their school building’s design aided in their school’s academic success, lowering the utility cost, and a favorable feeling of comfort in the building. The use of relevant theory was critical because of the paucity of related literature to this topic. According to the American Federation of Teachers (2008), there are four elements of indoor environmental quality of high performance school building design that directly influence the success of the buildings’ occupants: “indoor air quality, dampness and thermal comfort, acoustics, and lighting” (p. 16). A properly designed and regulated school building will reduce student’ and teachers’ absences thereby improving students’ academic achievement (American Federation of Teachers, 2008).

How occupants working in Leadership in Energy and Environmental Design (LEED) structured school buildings felt their buildings’ design impacted the learning environment was examined using sequential qualitative research design method of case study with purposeful, nested and theoretical sampling. I used, *The Green Building and Occupant Satisfaction Survey* (GB BOSS), in conjunction with questionnaires to extrapolate the level of satisfaction building occupants had with the LEED certified school buildings where they worked.

The following five questions informed this study: (a) How do building occupants perceive the LEED-certified school building design has had an effect on the learning environment?; (b) What operational models are prevalent from green school principles that impact the school’s curriculum?; (c) What instructional strategies are teachers employing to impact the academic achievement utilizing green school ecology?; (d) How does instructional
leadership impact the delivery of the green school’s curriculum?; and (e) What aspects of the school’s operations hinder the effective delivery of the green school’s curriculum?

Four LEED certified school buildings located in urban and suburban metropolitan area of a southwestern state that were open for a minimum of one academic year prior to the start of the research were purposefully selected for this study. I administered the GB BOSS to the staff on all four campuses of the green schools participating in this study. Ten percent of the survey recipients completed the GB BOSS. Five administrators and five teachers comprised the nested sample and completed the questionnaire, *The Green School Building Design Perceived Effect on the Learning Environment Survey.*

The campus staff selected to receive the questionnaire responded to questions about how they felt the concepts and principles of LEED for schools had been presented to them from their leadership; how they implemented the LEED for schools’ concepts into their daily roles; and how they felt The LEED for Schools concept implementation had had an effect on the total learning environment.

Stakeholder involvement in the planning of a green school creates the commitment, specifically buy-in, necessary to increase enthusiasm and move the green projects forward (Chipperdfield, 2015). During the data analysis, there was no evidence of stakeholders’ involvement in any phases of design planning of the LEED-certified school buildings in the study. All of the school administrators agreed that upon receiving their school assignments, no emphasis was placed on using or implementing a green school curriculum. They stated that they had not received very much formal training on green schools. Staff in LEED-certified school buildings who are supposed to use the features of the building to educate the students do not have the necessary skill set to perform their task with fidelity.

For future studies, I recommend studying the role of upper level school district administrators and how they view the role they play in supporting campus efforts to use green building design features. Chipperfield (2015) asserted, “Support of upper level school district’s
The need to marshal a uniformed effort throughout the school district is the responsibility of upper school management (Chipperfield, 2015). The inclusion of the primary building occupants and other educational stakeholders will offer a more profound understanding as to how all interested parties perceive the impact of buildings’ design on the learning environment.

References


Chipperfield, L. (2015). Green mean’s go: For many schools, the hardest part of going green is getting started. *American Schools and University*, p. 20-23.


