HIGH PERFORMANCE SCHOOLS IN A COVID-WEARY WORLD

DESIGN CONSIDERATIONS POST-COVID

AIR
Heightened focus on air "scrubbing" and environment purification

LIGHT
Design solutions to accommodate increased distances between students and their activities

SOUND
Vibration isolation and adaptive design for increased distances, structural systems and orthogonal surfaces

INSTRUCTIONAL TECHNOLOGIES
Smart technologies that integrate communication between all systems

The COVID pandemic has clarified the importance for our focus on the teaching environment. While we have always focused on the environmental aspects of air, light and sound, the experiences of the past year have brought new meaning to each of these three aspects and shed new significance on instructional technologies and connectivity.

At Mason & Hanger we have always approached our project solutions with an interdisciplinary / cross-discipline team. With experts in every aspect of the built and connected environment, we are able to look at a project holistically. air, light and sound present a unique set of challenges with many points of technical perspective.

This capability has never been more important, or beneficial, to our project partners. Heightened concerns over a new era of building fatigue, smart building conflicts and tailored illumination plans engage all aspects of our team approach. Our solutions can no longer be limited to a single discipline or set of linear assumptions. As the air systems are enhanced, increased sensitivity must be paid to the acoustic implications. As the spaces between teaching surfaces are increased, the lighting levels must be adjusted or focused to adapt.

AIR

The building's mechanical systems have always focused on the air quality and air changes. These have been well established and recognized, but the heightened focus on air "scrubbing" and environment purification resets these system benchmarks.

The academic environment has always challenged these system with extended hours, multiple varying uses and loads. Add to this the need to run these building loads through additional filtration and supplemental outside air and the systems begin to look a little different.

The new systems of the next generation of schools will have to look different. The greater challenge will be to the buildings with existing systems. Typically these come with serious limitations; size, power and access being not the least. Our team focuses on working these problems "both ends against the middle," meaning that we will help to reset the system expectations while being mindful of the building limitations.

LIGHT

By its very definition light is variable. It changes during the course of the day and during the seasons of the year. It has never made sense to assume that it should not change in the academic space to meet various needs. Classrooms have changed and will continue to do so; strip ceiling lights were not designed to meet these needs. Increased distances between students and their activities require lighting systems and devices to adapt. As the sun moves, clouds roll in, activities and instruction adapt lighting levels and direction has to be equally variable.

Newer systems can allow for changing color, lighting levels and lighting scenarios for lower electrical loads. Renovations and replacement systems are cost effective and can beneficially influence other building systems.

SOUND

A well-recognized study on learning and the academic environment has shown that a student's performance increases when that student is capable of hearing the teacher. Albeit a little self-evident the built environment is inherently "noisy." Traditional orthogonal surfaces exacerbate the reverberation of sounds through the teaching environment. Add to this the transmission of vibrations through monolithic structural systems and traditional classrooms can become very distracting.

Strategies for quieter learning spaces need to be intentional and holistic. Vibrations must be isolated, building elements must be separated, "hard vs. soft" must be looked at in every space.

OUR STRENGTHS

- Oldest A/E firm in America founded in **1827**
- Workforce of **250+** multi-discipline professionals
- Ranked in ENR 2020 **Top 500** Design Firms
- Footprint in **165** countries and **48** states
- Ranked in **Top 15** A/E Firms in Government Building Design

INSTRUCTIONAL TECHNOLOGIES

The seamless introduction of instructional resources into the classroom has been the primary goal of instructional technologies for quite a while. The pandemic has partially redirected this goal to include the seamless exporting of these same resources out of the classroom. The ability to translate from classroom-based to home-based on a week-by-week basis has been a significant challenge. And it is one that will possibly continue for some time, if not on a whole school then on a student-by-student basis

The fact is that both the classrooms and the building technologies systems have to become smarter. In order to do this, everything has to be able to talk with everything else. The Air system has to be coordinated with the Sound systems, the lighting system needs to talk with the Instructional technologies and the students and teachers need to talk and be heard by everything else.

One team, one approach, all working to build a safer world begins with your school and your students. Together, building a better academic environment assures better-educated future leaders. This is something that we believe in, work towards and feel pride that we can contribute to its realization.

Edwin Schmidt, FAIA
Director, International Schools Programs
703.258.9211
Ed.Schmidt@masonandhanger.com