

CHPS Criteria Interpretation #CCI-EQ-03

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Category: Indoor Environmental Quality

Criteria Edition: Submitted under US-CHPS v2.0, applies to all from 2014 and on

Applicable Prerequisites/Credits: EQ P15.0 Acoustical Performance

Applies to: Specific project, but principle applies to any project with open plan core learning spaces

Criteria Interpretation Question:

The CHPS Acoustical Prerequisite assumes the fundamental grouping of an elementary school is the “classroom,” the grouping of one teacher with approximately twenty-five students in an enclosed space. It also assumes a benefit to acoustically isolating these fundamental groupings from one another, reinforcing the idea of enclosure or robust physical separation between these groupings.

Our project’s position is that learning is a social process, and that it is personalized and learner-led. Our curriculum will be delivered primarily through working on projects (“Project-Based Learning” or “PBL”). The fundamental grouping of our project is the grade-level Small Learning Community (SLC), the grouping of approximately one-hundred students with four teachers. Each SLC supports student agency and choice – it is assumed students may work individually, in pairs, in small groups, in medium groups, and in large groups, and may have access to multiple teachers. The students own the educational environment (not the teachers).

The SLC, then, is about a group of students and teachers sharing a variety of spaces, and includes a large-sized open area, a medium-sized semi-open area, a medium-sized enclosed area, a small enclosed area, an enclosed teacher collaboration area (the teacher “home base”) with a staff restroom, student restrooms, custodial support space, and storage. It is assumed students and teachers regularly move about within the Small Learning Community throughout the day to the area they deem best-suited to the task at hand (for example, to enclosed areas for focused work, to open areas for collaborative work).

Each Small Learning Community is semi-open to the overall facility; each is well-defined for “containment” and “acoustical separation,” but physically open to the overall facility to the extent that the overall facility is a single community of learners (collaboration among grade-levels is highly valued). Just as amenities within the SLC are shared, amenities within the overall facility are shared among all SLC’s.

We are requesting guidance from CHPS as to how the intent of the Acoustical Prerequisite might apply within the SLC and between the SLC and the overall educational facility, given the value our project places upon social interaction and collaborative work (within a grade level and among multiple grade levels).

Criteria Interpretation Ruling:

The gold standard for classroom acoustics remains ANSI 12.60, whether the primary instructor is an adult teacher or a fellow student. Even though ANSI 12.60 contemplated classrooms in the traditional sense, the principles behind the standard are relevant for all learning spaces. We refer the team to the Acoustical Society of America’s publication *Acoustical Barriers to Learning* (<https://acousticalsociety.org/wp-content/uploads/2019/08/Classroom-Acoustics-II.pdf>) for the authoritative discussion of how important classroom acoustics are.

We acknowledge the value in Project Based Learning and the owner's desire to implement an innovative PBL school; we also recognize that PBL does not require open floor plans and does not negate the need for good acoustics. Our position is that the openings between the 2 SLCs in question and the 2-story atrium require acoustical separation, such as operable partitions. Our exemption from a minimum sound rating for doors between classrooms and corridors is not to imply that acoustical separation is unnecessary between those spaces but to recognize that hallway noise and bustle are controlled administratively rather than structurally. The atrium presents a different case because it is presumably neither off-limits during class time nor monitored for quiet. Its design also will allow sound from one SLC to reach another SLC.

Furthermore, to show compliance, the team will need to identify how each space within the SLCs meets the intent and requirements of the prerequisite. The team will need to pay special attention to the large collaborative areas, where the signal-to-noise ratio becomes more important since each speaking classmate will need to be heard above all other competing speakers in the space. Students with learning disabilities, hearing impairments, or who are English Language Learners will have an especially hard time functioning in these spaces.