TEN Ways to Re-invent Your School for 21st Century Learning
In this guest blog post written for YUSP, James Seaman, an architect and principal with the architectural and educational design firm Fielding Nair International (http://www.fieldingnair.com), shares tips for creating spaces that improve learning. James has designed numerous new and renovated schools throughout the world. Recently, he has completed an Innovation Hub and Mercaz at Hillel Day School and Farmington Hills, Michigan and the Gogya Teacher Academy in Ra’anana, Israel. James can be reached at james@fieldingnair.com (mailto:james@fieldingnair.com).

The world is a much different place today than it was a century ago. Industry boomed during the early part of the 20th century and innovations in the factory transferred easily to education. Schools were built and organized around a factory model with students compartmentalized into identical sized classrooms. At the ring of the bell, they would move from subject to subject or teacher to teacher like widgets on a conveyor belt. Rote learning was the main focus.

Today, education has changed remarkably. Control of learning is shifting from the teacher to the student. Students are working actively on projects, collaborating with their peers, and connecting knowledge across disciplines. This shift is due to a world that is rich in information and is in constant flux. Not only do students need basic content knowledge, they need to develop the skills to be critical thinkers, problem solvers, and innovators.

“We could view the school building itself as the hardware which runs the software of learning.”

— Prakesh Nair
Technology is being infused in the classroom. Computers, laptops, tablets, smart phones, interactive whiteboards, and other devices are being used to help students extend their learning in schools today. A technology that is often overlooked, is the classroom and physical layout of the school itself. Prakash Nair states that we could view the school building itself as the hardware which runs the software of learning. The organization and physical layout of the school has a direct impact on fostering or limiting learning activities.

The following ideas are ways in which schools are reinventing themselves to embrace learning in the 21st century.

1. **DECENTRALIZE**

   The layout of the classroom can make a big difference in what it communicates to students and teachers about learning. Having rows of student desks facing the teacher desk at the front of the classroom communicates a lecture mode of instruction. Having a classroom in this so-called “default” position actually makes it easier and more likely for a teacher to revert to a stand-and-deliver mode of teaching. Professor Torin Monahan calls this concept *built pedagogy*—the physical space through its layout communicates its intended use. To counter this, decentralize the classroom by eliminating the teacher desk at the front of the classroom. Use a teacher “perch” instead that allows and encourages being in multiple areas throughout the classroom.

2. **ENCOURAGE FLEXIBILITY AND MOVEMENT**

   Learning in school should be fluid. It can fluctuate between teacher-led and student-directed and it can involve many different activities. Flexibility is key to
shifting quickly between different modes of learning. Having the right furniture allows for flexibly arranging the classroom. Instead of individual student desks, consider tables with casters and separate lightweight chairs. Also, it’s important not to have too much furniture or else it will make rearranging the space too difficult. You will constantly be moving furniture out of the way in order to make room to move other furniture.

3. **ADD NATURAL LIGHT**

It is a basic human desire to have access to natural light. One scientific study even showed that having access to natural light in classrooms correlates with improved test scores. In addition to letting natural light into the school, having views out of windows can help to reduce eye fatigue. By periodically shifting your focus from near to far changes the focal length of your eyes. Look for ways to maximize natural light and views at your school. Many times this can be accomplished by just opening the blinds. It is okay—and good for health—for students to look out the window.

4. **THINK OUTSIDE THE BOX**

There are many other places in the school besides the classroom where learning can happen. Corridors for instance are typically only used for circulation,
however, these areas can be used for student breakouts and discussion. Changing the physical environment keeps things fresh. Try to find opportunities for taking learning outside the classroom. A gym, cafeteria, or even the outdoors can provide a new environment to stimulate learning or even facilitate different learning activities that are not possible in the classroom.

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5. KNOCK DOWN WALLS

When you are trying to move between teacher-led and student-directed learning activities, eventually you are going to run into walls, literally. The four walls of the classroom will limit you from doing certain activities. It was designed over a hundred years ago for one activity—lecturing. The classroom box is really not big enough for doing certain activities such as project work or student collaborative assignments. It may be necessary to reconfigure the classroom to connect to adjacent corridors or classrooms. Openings can be created using bi-parting glass doors,
overhead garage doors, or sliding whiteboards that allow spaces to connect. Both physical and visual connections are needed when learning expands out to other areas.

6. OFFER FLEXIBILITY THROUGH VARIETY

The best way to achieve flexibility is through a variety of spaces. Instead of having one space that can function for all things (e.g. the classroom), having access to commons areas, small group rooms, seminar rooms, and project rooms can allow for flexibly moving between learning activities and can accommodate multiple learning activities taking place simultaneously. If you are able to renovate or create a new school, challenge the notion of the classroom itself. Do teachers really need to own classrooms? Do you need to schedule subjects or classes to individual rooms? Innovative schools today look more like modern workplaces; they are comfortable and attractive places to be in and they stimulate and foster many different learning activities. A school can be designed with a variety of spaces that teachers and students share, allowing them choose the right space based on the desired learning activity.

7. SHARE RESOURCES

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I have toured hundreds of schools throughout the world and a need that I hear teachers always asking for is more storage. Resources are very important for the learning process, however, in traditional school settings where teachers work in isolation from one another, many resources are duplicated. Creating a **Teacher Collaboration Room** where teachers work together and share resources can actually free up more room for learning. These spaces should be visible and located adjacent to the learning spaces so that teachers can access them easily.

8. ESTABLISH COMMUNAL LEARNING

Learning can be powerful when leveraging the knowledge of a community. Instead of thinking about an individual classroom as the basic building block of a school, a **Learning Community** is comprised of 4-6 teachers and 100-150 students who share a variety of diverse and resource-rich spaces. Teachers can still work with groups of 25-30 students in classroom spaces, but they can also share central commons areas for student-directed work, presentations, or project-based learning. Small group rooms can be used for collaboration or student interventions. By sharing these spaces and the students, teachers can work together to differentiate instruction, create integrated and interdisciplinary lessons, and foster a sense of belonging through meaningful relationships.

9. CREATE AN INNOVATION HUB
Innovation in the 21st century is typically accomplished when people connect seemingly unrelated things by thinking across disciplines. Specialized spaces such as science or art don’t need to be isolated from one another. Also, it may not be practical to create these highly specialized spaces throughout the entire school. Instead, consider locating these types of spaces in a central location of the school that are accessible to everyone. These spaces can be reimagined as an **Innovation Hub** which provides rich resources for collaboration, building things, and demonstrating learning. For instance, Hillel Day School, a PK-8 in Farmington Hills, Michigan created an Innovation Hub in an existing wing of their school that includes a makerspace, production room with a green screen, deconstruction room for taking things apart, an art and design studio, a science lab, and a greenhouse. The spaces are seamlessly connected via a commons and are used by the entire school for working on interdisciplinary projects or highly specialized activities.

**10. HAVE A HEART**

A central space which can serve as a learning commons can bring the entire school together and also be used for community uses. Establishing a
central Heart is important for creating a welcoming entry to the school. It is easy to design these types of spaces for new schools and they can take on the function of a library or media center. In existing schools, a Heart could be created through some creative reconfiguration of spaces. The space should be comfortable, inviting, and capture the essence of the school.
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